SAVE HOMESTAKE

WHITNEY RESERVOIR

EAGLE COUNTY 1041 REVIEW

Evidence, Applicable Approval Standards
and Save Homestake’s Position

September 23, 2026 · Edition 2.0

A connected public-interest record for independent review

EXECUTIVE EVIDENCE OVERVIEW

The evidence at a glance

A connected record of place, water and ecological function. Each evidence category leads to a question the County must answer under its applicable approval standards.

Wetlands + fens

Dated inventory polygons intersect all four modeled alternatives. Peat, groundwater and vegetation function together.

§6.04.01(16), (17), (19), (20)
S26 · S30 · S31 · HWF:V3-07

Water + existing export

23,371 AF/year average recorded Tunnel export and 21,498 AF/year passing Gold Park, WY2007-2024.

§6.04.01(15), (16); §6.04.02(3)
HWA:S-GP-ANNUAL

Wildlife + aquatic habitat

Historical toad breeding and cutthroat records, current observations and studies of water-dependent habitat.

§6.04.01(18), (19)
HWF:V3-17 · HWF:V3-24

The complete project

The reservoir connects to dam works, roads, pumping, conveyance, power and recurring maintenance.

§6.01.09; §6.03.06; §6.04.01(17)-(21)
S08 · S09 · S29

Recreation + landscape

Existing trail, river and wildlife-viewing experience; construction and operating noise, access and scenery.

§6.04.01(11), (14), (21)
S09 · S10 · S16

Need + efficient water use

Credit verified conservation and reuse. Compare further practical savings and reliable annual supply on the same basis.

§6.04.02(1), (3); §6.04.01(5), (24)
S01 · S08

Evidence: S01

ATTRIBUTED ADVOCACY

Save Homestake’s position

> Based on the evidence compiled in this dossier and the approval standards identified below, Save Homestake’s position is that the record supports denial of proposed Whitney Reservoir if the applicable standards cannot be demonstrated or ensured through enforceable conditions.

Save Homestake opposes Whitney Reservoir, new or expanded interbasin diversions from Homestake Valley, and changes to the Holy Cross Wilderness boundary. The requested outcome is the organization’s conclusion from this evidence.

The criteria supporting that position

- Wetlands, groundwater, plants and soils: preserve the functioning peat, water and living community, including habitat exposed to modeled inundation and construction.
- Wildlife and aquatic life: protect breeding, seasonal movement, cold-water habitat and the flow-dependent food web.
- Recreation, scenery and nuisance: evaluate the complete construction and operating landscape, including roads, pumps, power and maintenance.
- Necessity, efficient use and County benefits: demonstrate reliable project-specific supply, credit conservation already achieved, and compare additional practical measures and local resource losses.

A decision grounded in the governing record

The Board determines compliance. The chapters distinguish recorded facts, measurements, calculations, models and scientific inference from Save Homestake’s analysis and requested findings. County findings are described as such only where an actual County decision exists.

Evidence: S01 · S07 · S08 · S31

HOW TO READ THIS DOSSIER

A record you can inspect

Start with the evidence overview and matrix. Each criterion chapter follows the same sequence: the resource; governing code; evidence; material open questions; why it matters; Save Homestake's position; the Board's decision; and sources.

Evidence category	Meaning in this dossier
DOCUMENTED FACT	A dated source directly records the fact.
MEASURED DATA	An observation or instrument record, with location and period.
CALCULATION	A reproducible transformation of stated inputs.
MODELED RESULT	An output dependent on identified geometry, scenarios and assumptions.
SCIENTIFIC INFERENCE	A mechanism supported by research, applied with its study setting.
PROPONENT STATEMENT	The cities' or applicant's own attributed project description.
SAVE HOMESTAKE ANALYSIS	The project's interpretation connecting sources and approval questions.
SAVE HOMESTAKE POSITION	The organization's clearly attributed requested decision.
UNRESOLVED	A material record that still needs an identified answer.

Read citations in one consistent way

S01-S34 are established dossier source labels, with canonical project identifiers 1041:S01 through 1041:S34. HWF prefixes preserve ecology source and claim IDs; HWA identifies water-audit sources. MUN identifies municipal sources. Source IDs link directly to the original record; the full register provides titles and pinpoints. Chapter and matrix page numbers link inside this PDF.

Current law is the published adopted Chapter VI. September 15, 2026 provisions are a proposed comparison. Appendix A supplies considerations for applying the criteria, rather than additional mandatory approval standards.

Evidence: S01 · S02

EXECUTIVE MATRIX · 1 OF 2

The decision roadmap

Current criteria govern. Draft counterparts below refer only to the September 15, 2026 proposed text; related provisions can differ in wording and scope.

Resource / issue	Key evidence	Current code	Proposed comparison	Decision question	Save Homestake position	Detail
Fens / wetlands	All alternatives intersect dated wetland/fen polygons; peat function.	6.04.01(17)	406(C)(3); 307(F)	Will functions avoid significant degradation after conditions?	Deny if significant loss remains.	24
Groundwater	Groundwater-fed peat; excavation, dewatering and channel connections.	6.04.01(16), (17), (20)	406(C)(2)-(3)	Which sources, levels and functions would change?	Protect the supply sustaining peat and habitat.	26
Surface water / aquatic life	Matched annual accounts; seasonal flow, metals and food-web studies.	6.04.01(15), (18)	406(C)(1), (4)	What incremental quality and habitat change would occur?	Deny significant degradation left unresolved.	30
Wildlife / plants / soils	Historical records, observations, regional ecological studies.	6.04.01(18)-(20)	411-413	Which communities/functions are exposed and replaceable?	Protect connected habitat and lasting peat function.	33
Recreation / scenery	Existing valley uses; modeled landscape and basin boating scenarios.	6.04.01(11), (14)	423; 431	Would existing experience or visual quality significantly decline?	Evaluate existing experience and full operating levels.	43
Noise / infrastructure	Applicant pumping/conveyance; dam, roads, power and maintenance.	6.04.01(21); 6.03.06	429; 425-426	Will construction or operation cause an unresolved nuisance?	Review every connected component and operating phase.	45

Evidence: S01 · S02

EXECUTIVE MATRIX · 2 OF 2

The decision roadmap

Current criteria govern. Draft counterparts below refer only to the September 15, 2026 proposed text; related provisions can differ in wording and scope.

Resource / issue	Key evidence	Current code	Proposed comparison	Decision question	Save Homestake position	Detail
Necessity	Storage concepts and broader program objective; service-area demand.	6.04.02(3)	Information: 303(D), 331(B); test omitted	Is Whitney necessary under reasonable service-area assumptions?	Require dependable Whitney-only yield and a common baseline.	49
Efficient water use	Measured conservation/reuse plus practical additional savings.	6.04.02(1)	434(D); 331 materials	Does the project emphasize the most efficient water use?	Credit progress and quantify additional measures.	51
Dependable supply	Refill, dry years, senior rights, pumping and releases.	6.04.01(5); 6.04.02(3)	403; 409	Are operation and promised deliveries feasible and dependable?	Require an auditable water balance and enforceable operations.	54
County benefits / economy	Binding County benefits versus permanent resource/opportunity losses.	6.04.01(24), (10), (9)	422; no equivalent standalone (24)	Do County benefits outweigh County losses?	Apply each retained standard; restore the current balancing test.	56
Cultural / historic	Protected landscape history; inventory needed for affected resources.	6.04.01(22)	424	Which important areas would be significantly degraded?	Protect documented resources with meaningful Tribal participation.	47
Rights / public lands	Ownership, protected boundaries, approvals and water decrees.	6.04.01(1); 6.01.05	404; 109	Are all rights/approvals secured and standards met?	Oppose wilderness-boundary changes; enforce County protections.	58

Evidence: S01 · S02

CLICKABLE CONTENTS

Find your way through the record

The executive matrix links each approval issue to its criterion chapter. These contents lead to the supporting systems, maps, studies and original records.

DECISION RULE AND CROSSWALK

The Board decides. Every standard must be met.

The Eagle County Board of County Commissioners is the 1041 Permit Authority under §6.01.07(1). Current §6.03.10 places the burden on the applicant. The Board may deny or impose conditions that ensure compliance; §6.04.01 requires denial or approval with such conditions for a noncompliant project. State §24-65.1-501(4) requires denial when the activity does not comply. A failed criterion that remains unresolved supports denial.

Draft §§211 and 401 preserve the applicant’s burden. Section 211(B) requires denial for any failed Article 4 standard; §211(C) permits conditions that establish compliance with every standard. The Board must evaluate the mitigation actually offered and the harm that remains.

Protected interest	Current code	September draft
Fens / wetlands	6.04.01(17)	406(C)(3); 307(F)
Groundwater	6.04.01(16)	406(C)(2)
Surface water / aquatic life	6.04.01(15), (18)	406(C)(1), (4)
Wildlife / plants	6.04.01(18), (19)	411; 412
Recreation / local economy	6.04.01(11), (10)	423; 422
County benefits exceed losses	6.04.01(24)	No equivalent standalone test
Demonstrated necessity	6.04.02(3)	Information required; test omitted
Efficient use / conservation	6.04.02(1); 6.04.01(12)	434(D); 331 materials
Feasibility / dependable supply	6.04.01(5); 6.04.02(3)	403; 409
Nuisance / scenery	6.04.01(21), (14)	429; 431
Historic / archaeological areas	6.04.01(22)	424
Rights and approvals	6.04.01(1)	404

Crosswalk entries identify related protections, not identical language. Current Appendix A lists optional considerations supporting the criteria; it is not a second set of mandatory approval standards.

Evidence: S01 · S02 · S06

STATUS CHECKED SEPTEMBER 23, 2026

Which code governs the decision?

> Published adopted Chapter VI remains the current governing text in the reviewed official record. The latest proposed replacement located is dated September 15, 2026.

Step	Verified status on September 23, 2026
September 23 planning commissions	Recommendation hearing scheduled. Posted resolution templates have blank vote and signature fields; a completed recommendation was not verified.
October 27 Board hearing	Scheduled 2:30-4 p.m. for consideration of 1041 amendments.
Effective date / transition	Staff recommends effectiveness with readopted ECLUR, with current Chapter VI fully effective until then. No enacted replacement effective date was verified.
Broader code / map hearing	Separate November 3 schedule retained in the County’s broader adoption materials.

The draft crosswalk is a comparison with the September 15 proposal. Apply an enacted replacement only after verifying its final text, applicability, transition and effective-date resolution.

The original records stay visible

Current-code, draft and staff excerpts are reproduced in the exhibits. Source IDs distinguish the enacted code, proposed text, hearing schedule and staff recommendation.

Evidence: S01 · S02 · S03 · S04 · S23

THE COMPLETE PROJECT

Whitney’s impact extends beyond the waterline

Colorado Springs Utilities describes gravity pipelines and tunnels collecting from Peterson, Fall and Resolution Creeks, followed by pumping Whitney water up to existing Homestake Reservoir (March 2022 fact sheet, p. 1, S08). The utility’s 2019 draft map shows the broader conveyance concepts (S29). These records establish a connected water system with construction and operating effects throughout the valley.

The argument for denial

Inundation permanently converts habitat. Building and operating the supporting system adds clearing, excavation, road use, visible infrastructure and recurring activity. Those effects can reach wetlands outside the flood line, groundwater connections, wildlife movement and the places people come to enjoy. They belong in the same compliance findings as the reservoir itself.

How both codes reach the whole project

Current §6.03.06 requires the project and impact record, including alternatives and construction/operation effects. Current definitions include systems and related components. Draft §109 expressly includes required support facilities, activities and components, with direct, indirect and cumulative County land-use effects.

> The Board should decide the impacts of the reservoir, dam works, roads, pumping, conveyance, electrical supply, construction areas and continuing maintenance together. Deny where any applicable resource, recreation, nuisance or scenery standard remains unmet.

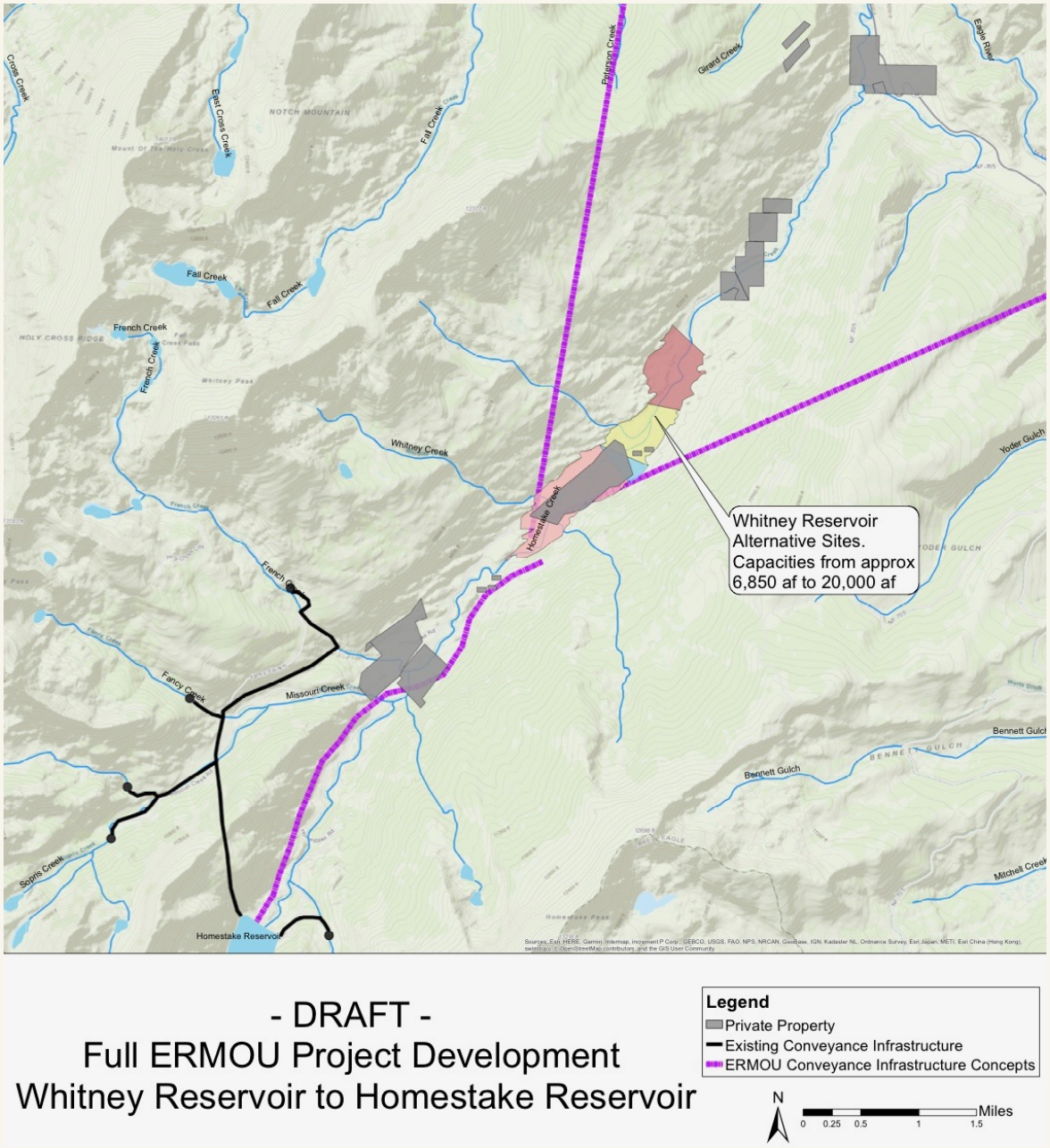
How to read the maps

The utility map preserves its draft conveyance routes. The alternative maps use the existing reservoir model and complete archived wetland inventories. They show the modeled dam embankment and mark likely downstream work locations with callouts. Pump-station sites, permanent access layouts and electrical routes await a located design in the public record; the component tables account for their effects without assigning invented locations.

Evidence: S01 · S02 · S08 · S09 · S29

ORIGINAL PROJECT EVIDENCE · CSU, 2019

The utility’s wider conveyance concept



Original utility map reproduced by Aspen Journalism, July 17, 2019 (S29). Its draft routes show why collection and uphill conveyance belong in the County’s impact review. CSU’s 2022 fact sheet supplies the later description of tributary pipelines/tunnels and pumping (S08, p. 1).

Evidence: S29 · S08

CONSTRUCTION FOOTPRINT AND RETAINED WORKS

Roads and downstream dam works

The 2019 applicant map locates the four alternative dam axes, Homestake Creek and the existing road (S09, Figure 1, technical p. 3 / PDF p. 11). The maps that follow show the modeled embankment and the downstream side where related work would occur. The effects below are anticipated construction pathways tied to those components.

Component and basis	Likely construction effects	Continuing effects
Dam, foundations and downstream works Mapped alternative axes; modeled embankments.	Clearing and excavation; downstream toe, outlet/spillway work; temporary stream management; equipment access; sediment and groundwater disturbance.	Visible dam and outlet works; inspections, repair access and altered channel/flow conditions.
Homestake Road and work/service access Existing road mapped in S09.	Haul traffic, dust and equipment; new or relocated road cuts/fills where selected; potential wetland crossings and temporary access interruptions along affected routes.	Service vehicles; road/drainage upkeep; recurring access needs and any operating restrictions.
Staging, materials and excavated spoil Anticipated dam/conveyance work.	Laydown, stockpiles, material handling and runoff. Locate each temporary site against wetlands and groundwater connections.	Retained access or pads; reclamation performance; disturbance when repairs require renewed work areas.

> Land downstream of the dam is part of the impact case. A reservoir waterline leaves out the foundation, toe, outlet, access and work areas needed to build and service the structure.

Apply current wetlands, wildlife, plants/soils, recreation, nuisance and visual criteria: §6.04.01(17)-(21), (11), (14). Draft counterparts include §§406, 411-413, 423, 429-432; §§425-426 also address traffic and road costs. The 2019 drilling-access drawings describe temporary investigation access.

Evidence: S01 · S02 · S09 · S27

THE OPERATING SYSTEM

Pumping, power and maintenance count

Pumping and water conveyance are explicit in CSU's description (S08, p. 1). Energy supply, service access and maintenance are necessary to operate that system. Their anticipated effects must be assessed through the selected equipment and layout.

Component and basis	Construction effects	Operation and maintenance
Pump facilities Uphill pumping described by CSU.	Foundation/pad, pipe connections, equipment installation, access and energy supply.	Pump/motor and ventilation noise; vibration; visible buildings, lighting and equipment; service trips, inspections and equipment replacement.
Pipelines and tunnels CSU description and draft conveyance map.	Trenching or tunnel excavation; portals/shafts where selected; spoil handling; crossings and potential groundwater interception.	Visible portals/valves; inspection access; leak repairs and replacement work that can reopen disturbed ground.
Electrical supply and controls Engineering requirement of pumping.	Selected cable/line corridor and equipment pads; installation access and crossings. Include poles or generation only if proposed.	Equipment appearance, transformer/fan sound where relevant, lighting, testing and servicing; corridor vegetation management where needed.

Why the operating period matters

Initial construction is only one period of disturbance. Repeated service access, equipment operation, corridor work and repairs can recur over the project's life. Quiet recreation, wildlife movement, views and property enjoyment must be assessed against that continuing activity.

> The Board should deny when construction or continuing operation leaves a nuisance or significant recreation, habitat or visual harm under the applicable criterion. The proposed controls must address both periods.

Evidence: S01 · S02 · S08 · S09 · S29

MEASURED DATA + SAVE HOMESTAKE CALCULATION

Two recorded routes through Homestake

Across WY2007-2024, recorded water moving through Homestake Tunnel exceeded the volume recorded passing the Gold Park stream gauge. The comparison describes the scale of those two routes over the same 18 water years.

23,371

AF / YEAR

Average recorded Homestake Tunnel export

21,498

AF / YEAR

Average recorded passing Gold Park

The denominator is explicit

Tunnel export ÷ (Tunnel export + Gold Park flow). Gold Park gauges a 35.6-square-mile drainage. This is a comparison across two recorded routes, not a verified percentage of all natural Homestake runoff.

WY2007-2024 route	Total recorded volume	Share of these routes
Homestake Tunnel	420,676.93 AF	52.09%
Passing Gold Park	386,968.01 AF	47.91%
Two-route sum	807,644.94 AF	100.00%

Why it matters: existing export is already a major part of the recorded water movement in the upper valley. A Whitney operating proposal should be assessed against that measured setting and the seasonal water sustaining downstream habitat.

Evidence: HWA:S-GP-ANNUAL · HWA:S-USGS-GP · HWA:S-TUNNEL · HWA:S-REPORT

REPRODUCIBLE WATER ACCOUNTING

The arithmetic and its boundaries

Gold Park: matched 18-year comparison

Export share = 420,676.9294 ÷ (420,676.9294 + 386,968.00661157) × 100 = 52.086865%. Annual means divide each total by 18 water years. WY2007-2024 is one shared period, not a mixture of unmatched records.

A partial balance, kept separate

Adding endpoint reservoir storage change and recorded evaporation accounts yields an export comparison near 51.75%. This adds known terms to the balance; unresolved physical terms still prevent a fully naturalized estimate of total runoff.

Red Cliff: a different question

The Red Cliff comparison is approximately 43% across two measured paths during WY2007-2011. Red Cliff has a larger downstream drainage and a shorter period, with additional downstream contributions. Its result is a separate comparison, not the low end of an uncertainty range around Gold Park.

Five intakes: collection within the system

Collector	Recorded average capture, WY2014-2024
French	~3,531 AF/year
Fancy	~1,780 AF/year
Missouri	~1,743 AF/year
Sopris	~2,486 AF/year
East Fork	~3,610 AF/year
Combined record	~13,149 AF/year

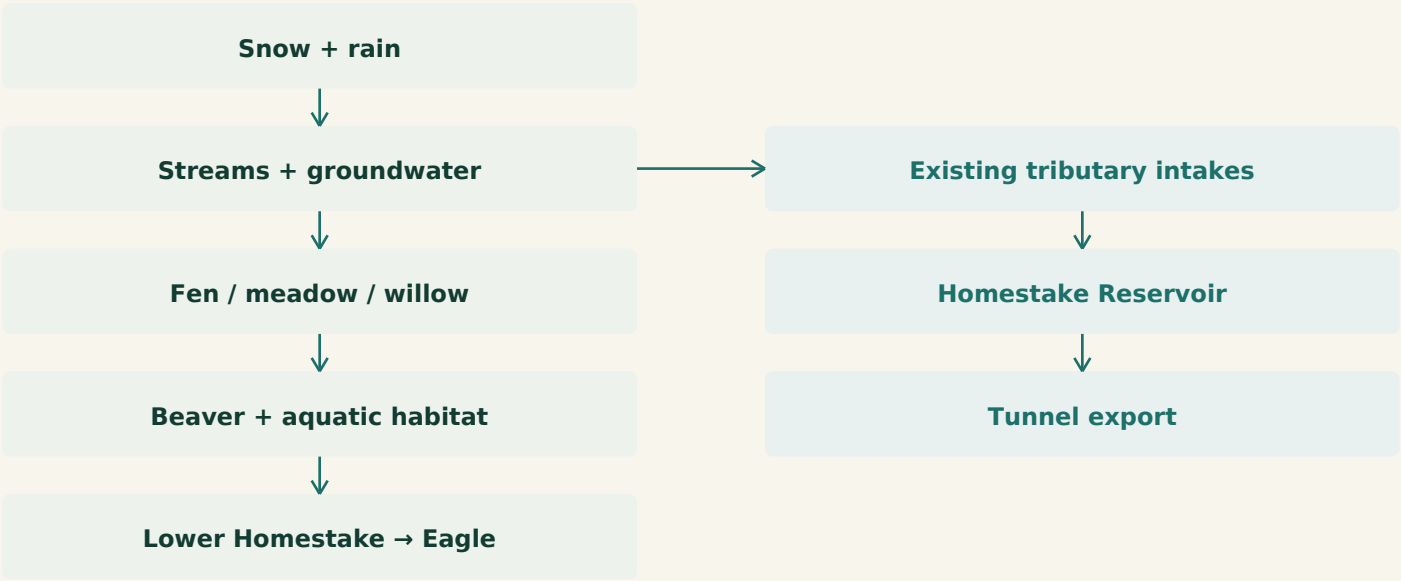
The combined mean is calculated from the unrounded collector records. The five displayed rounded means sum to 13,150 AF/year. Collector water overlaps later reservoir/Tunnel accounting and is never added to Tunnel export as another withdrawal.

Evidence: HWA:S-GP-ANNUAL · HWA:S-RESERVOIR · HWA:S-REDCLIFF · HWA:S-COLLECTORS · HWA:S-RAW

CONNECTED SYSTEM + SCIENTIFIC INFERENCE

Water timing is habitat

Snow and rain enter headwater streams and groundwater. Seasonal water sustains fens, wet meadows, willow, beaver complexes and aquatic habitat, then moves through lower Homestake Creek toward the Eagle River. These pathways connect the water account with the living resources under review.



Local records and regional mechanisms

Local evidence includes mapped wetlands, field observations and historical upper-Homestake toad breeding and trout documentation. Colorado studies show streamside vegetation shifts below diversions, slower groundwater decline around monitored beaver dams and persistent altered peat properties after drainage. Those study results explain mechanisms to measure in Homestake.

The relevant comparison is seasonal: spring inundation and recharge, breeding-water duration, summer groundwater and cold-water refuge, plus food transported by flowing water. Annual volumes establish scale; hydrographs and groundwater records connect operation to ecological function.

The approval question

For each exposed resource, compare current, no-action and project conditions at matched locations and times. Identify the water source, magnitude and duration of change, biological response and enforceable conditions under §6.04.01(15)-(20).

Evidence: HWA:S-GP-ANNUAL · HWF:V3-17 · HWF:S31 · HWF:S12 · HWF:V3-07 · HWF:V3-21

WHAT IS KNOWN / WHAT MUST BE RESOLVED

The supply record the decision needs

Whitney-only dependable yield

Known: CSU describes Whitney storage concepts of 6,850-20,000 AF. The broader Eagle River Joint Use project objective is up to 20,000 AF/year for the East Slope. Storage and annual supply are different quantities, and the broader objective is not Whitney-only annual yield.

Material record	Record holder / decision value
Whitney-only annual and dry-year yield	Applicant / utilities: necessity, feasibility and alternatives on a common dependable-supply basis.
Initial fill, refill and source collection	Applicant: identify tributaries, diversion timing, source drainage and operating levels.
Evaporation, storage change and bypasses	Applicant / operators: close the physical balance and describe water available to downstream habitat.
Pumping, power and conveyance limits	Applicant: evaluate delivery reliability, energy, operating effects and life-cycle cost.
Selected footprint and complete works	Applicant: locate permanent/temporary facilities, access, maintenance and actual resource exposure.

Why the record matters: the County can compare the reliable supply actually delivered with conservation, reuse and alternative portfolios only when the same period, reliability standard, legal availability and losses are used.

Evidence: S08 · HWA:S-REPORT · S01

FOUR ALTERNATIVES · UNCHANGED MODEL

Mapped wetlands and potential fens in modeled flood zones

The archived inventory overlay places about 81.4 acres of mapped wetlands and potential fens inside the shared area of all four displayed flood zones. Alternatives A and D intersect four potential-fen polygons; B and C intersect two. These are inventory-model intersections using the dated older CNHP service; the source-version question is detailed on the next page.

Alternative	Wetland polygons	Potential-fen polygons	Wetland + fen overlap[1]
A	29	4	127.4 acres
B	19	2	85.4 acres
C	21	2	94.9 acres
D	38	4	134.8 acres

[1] Modeled intersection with the union of mapped wetland and potential-fen polygons, with overlapping areas counted once. Pond, river/stream and lake inventory polygons appear for context and are not added to this acreage. Values describe the existing full reservoir presets.

What the maps show

Each map shows the same extent and scale: modeled flood zone; mapped wetlands; CNHP potential fens; mapped ponds, streams and lakes; existing Homestake Road; and the modeled dam embankment. Orange downstream arrows identify the likely toe/outlet/access work vicinity. Work-area boundaries depend on the selected construction design.

Inventory classifications and coverage

All positive-area intersections were checked against the complete September 18 exports: 2,979 CNHP Colorado Wetlands features and 600 Fen Mapping features covering the model area. The four intersecting fen IDs, 3033, 3045, 5490 and 5491, are classified Potential Fen. IDs 3045 and 5491 intersect all four alternatives. Campaign field photographs and observations provide the separate local habitat record.

Method and significance

The overlay intersects the existing 10 m terrain solver’s water-surface triangles with inventory polygons in UTM Zone 13N. Model inputs, depths and presets are unchanged. These are modeled inventory-area estimates. The per-feature register lists every intersecting ID and modeled area (S31).

Evidence: S11 · S26 · S30 · S31

CNHP INVENTORY VERSION STATUS

A dated map, a traceable source

The September 18 spatial model uses archived full exports of the older CNHP Fen Mapping and Colorado Wetlands services. Its geometry, feature IDs and overlap calculations remain reproducible. The potential-fen classifications remain attached to the mapped features.

18

OLDER SERVICE FEATURES

In the same downstream query envelope

6

FENS 2025 FEATURES

A newer service with different geometries

What is known

The September 23 comparison returned different counts and geometries in the identical downstream query envelope. These counts describe records returned by two services, not habitat disappearance.

What must be resolved

CNHP / USFS should identify source currency, field basis, classification changes and correspondence between old and new polygons. The affected map layers should be updated once that relationship is established, retaining the original dated model for reproducibility.

Why the record matters

A permit decision needs a resource baseline that joins map polygons with peat measurements, vegetation, hydrology and current field condition. Source reconciliation protects the precision of both the impact acreage and the wetland/fen interpretation.

Evidence: S26 · S30 · S31 · HWF:FEN-2025

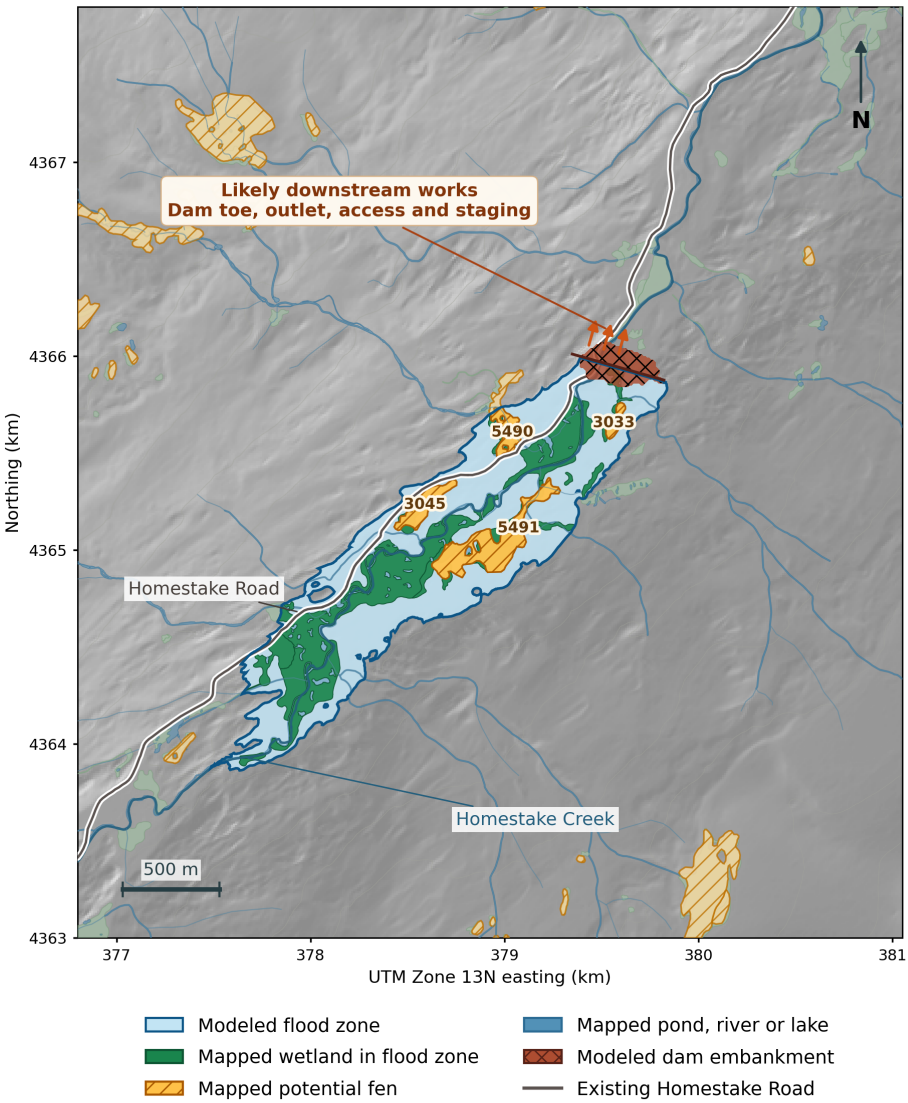
MODELED FLOOD ZONE AND DOWNSTREAM CONSTRUCTION

Alternative A: wetlands and works

Alternative A: wetlands, fens and downstream works

Flood-zone overlap: 29 wetland polygons · 4 potential fens · 73 mapped pond/river/lake polygons

Existing full reservoir preset · all mapped inventory features shown · same scale in A–D



Flooding and dam construction affect land together. Orange arrows identify the likely downstream work vicinity.

Sources: CNHP Colorado Wetlands and Potential Fens, complete 18 Sep 2026 exports; USGS terrain, streams and road.
Wetland shading is strongest inside the flood zone. Numbers identify intersecting CNHP potential-fen polygons.
Downstream arrows are schematic; work-area boundaries depend on the selected design. Model inputs are unchanged.

Evidence: S09 · S11 · S26 · S30

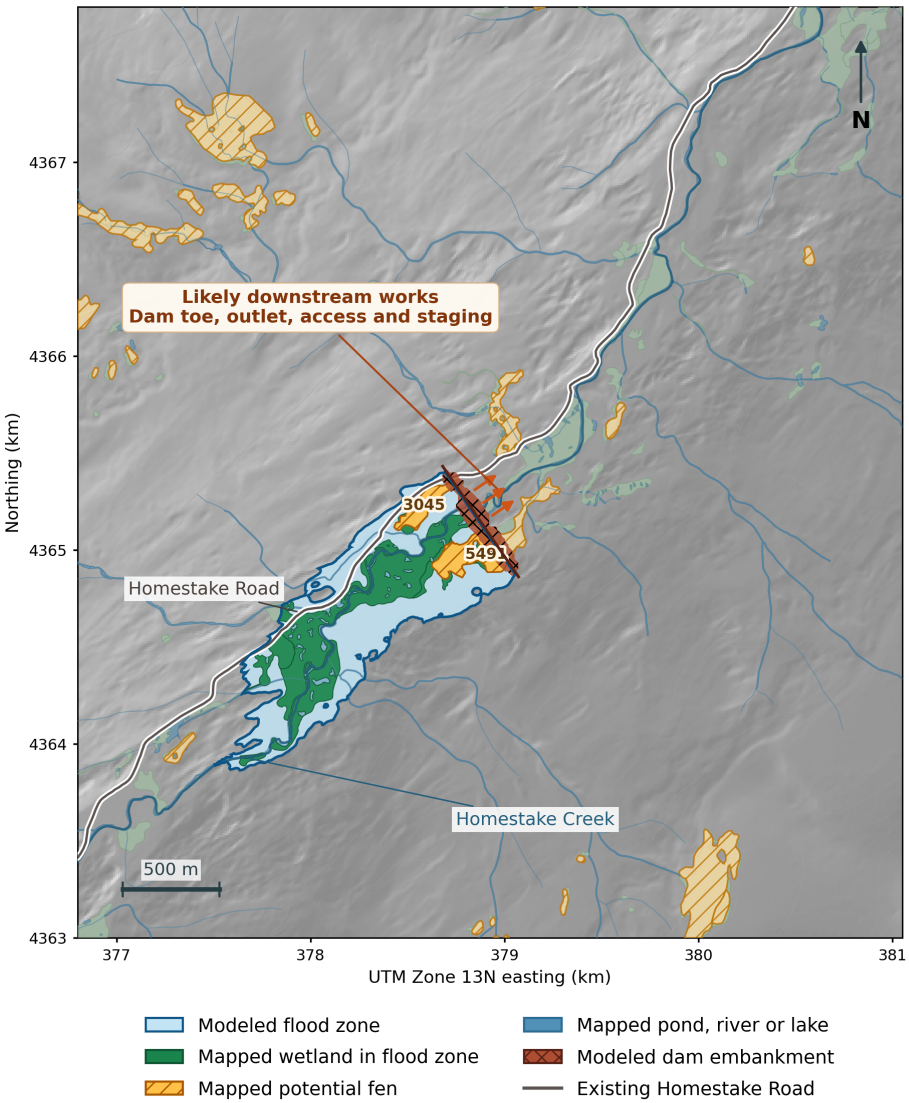
MODELED FLOOD ZONE AND DOWNSTREAM CONSTRUCTION

Alternative B: wetlands and works

Alternative B: wetlands, fens and downstream works

Flood-zone overlap: 19 wetland polygons · 2 potential fens · 42 mapped pond/river/lake polygons

Existing full reservoir preset · all mapped inventory features shown · same scale in A–D



Flooding and dam construction affect land together. Orange arrows identify the likely downstream work vicinity.

Sources: CNHP Colorado Wetlands and Potential Fens, complete 18 Sep 2026 exports; USGS terrain, streams and road.
Wetland shading is strongest inside the flood zone. Numbers identify intersecting CNHP potential-fen polygons.
Downstream arrows are schematic; work-area boundaries depend on the selected design. Model inputs are unchanged.

Evidence: S09 · S11 · S26 · S30

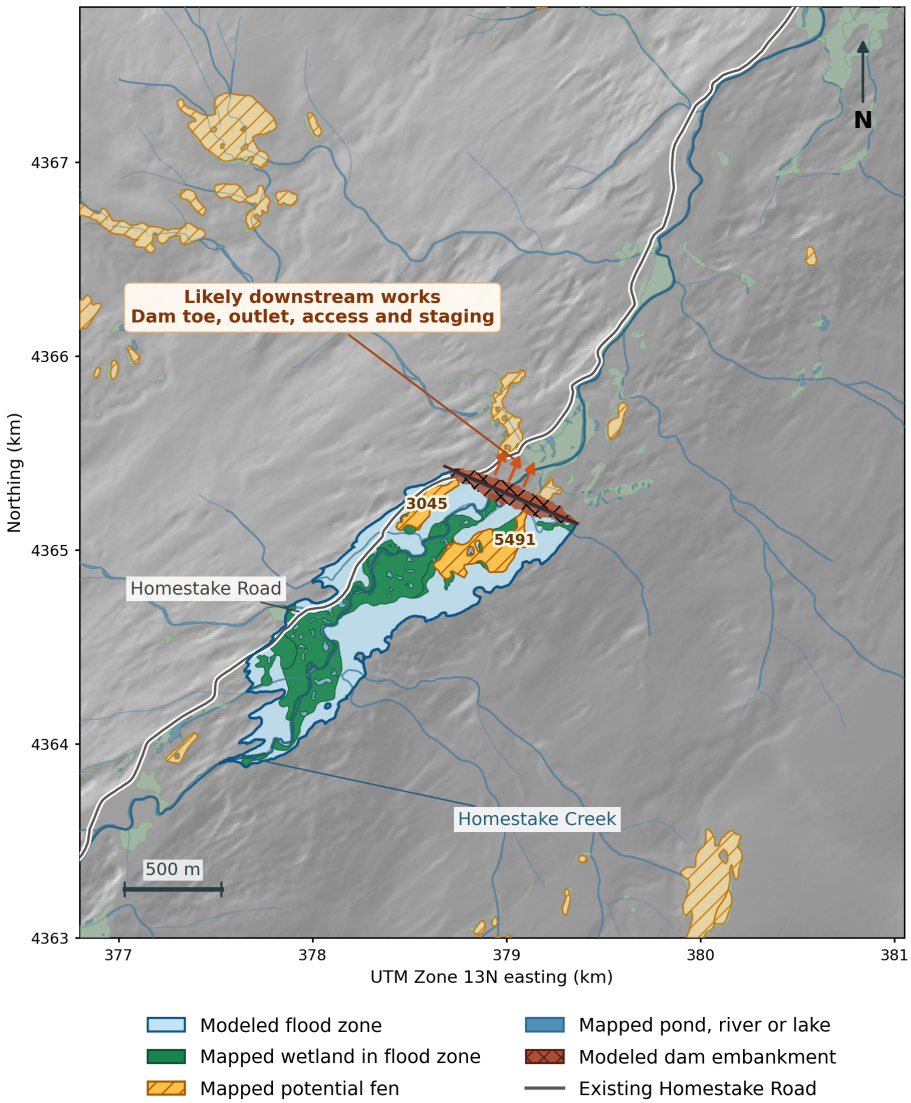
MODELED FLOOD ZONE AND DOWNSTREAM CONSTRUCTION

Alternative C: wetlands and works

Alternative C: wetlands, fens and downstream works

Flood-zone overlap: 21 wetland polygons · 2 potential fens · 46 mapped pond/river/lake polygons

Existing full reservoir preset · all mapped inventory features shown · same scale in A–D



Flooding and dam construction affect land together. Orange arrows identify the likely downstream work vicinity.

Sources: CNHP Colorado Wetlands and Potential Fens, complete 18 Sep 2026 exports; USGS terrain, streams and road.
Wetland shading is strongest inside the flood zone. Numbers identify intersecting CNHP potential-fen polygons.
Downstream arrows are schematic; work-area boundaries depend on the selected design. Model inputs are unchanged.

Evidence: S09 · S11 · S26 · S30

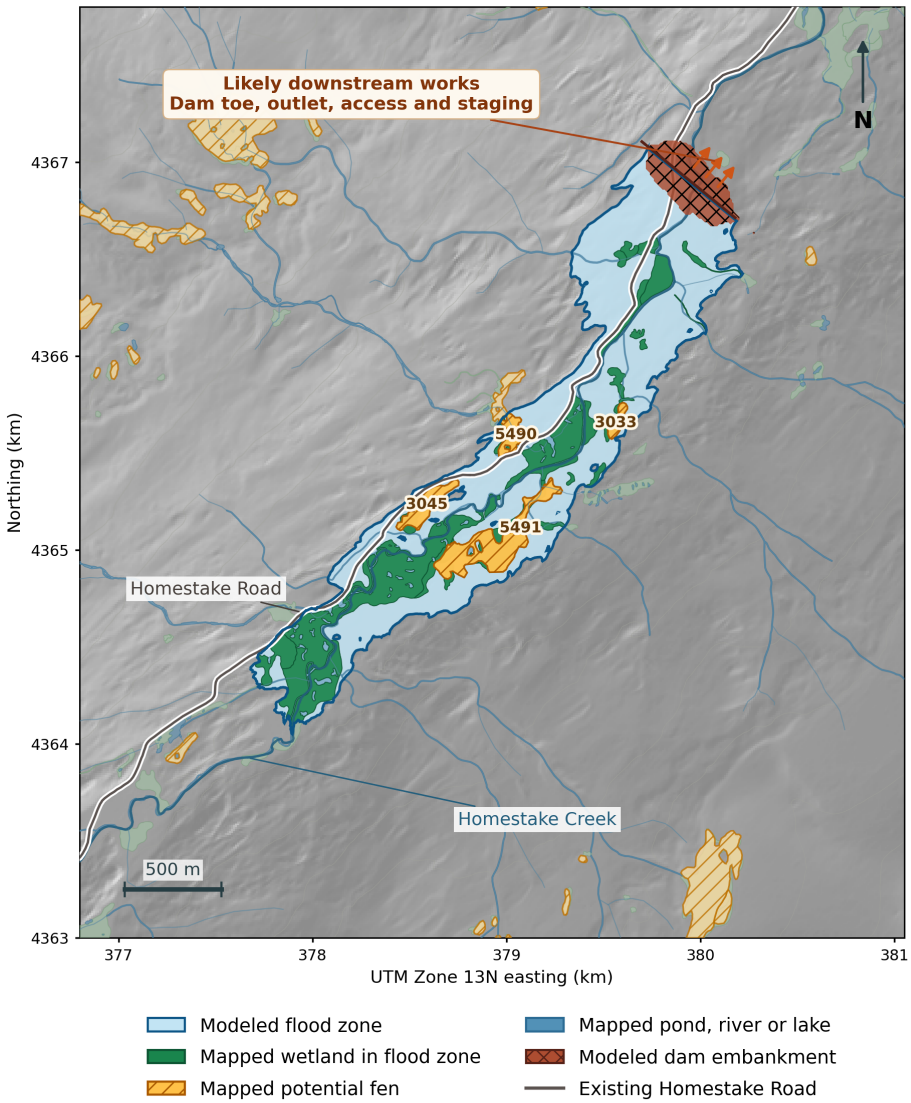
MODELED FLOOD ZONE AND DOWNSTREAM CONSTRUCTION

Alternative D: wetlands and works

Alternative D: wetlands, fens and downstream works

Flood-zone overlap: 38 wetland polygons · 4 potential fens · 74 mapped pond/river/lake polygons

Existing full reservoir preset · all mapped inventory features shown · same scale in A–D



Flooding and dam construction affect land together. Orange arrows identify the likely downstream work vicinity.

Sources: CNHP Colorado Wetlands and Potential Fens, complete 18 Sep 2026 exports; USGS terrain, streams and road.
Wetland shading is strongest inside the flood zone. Numbers identify intersecting CNHP potential-fen polygons.
Downstream arrows are schematic; work-area boundaries depend on the selected design. Model inputs are unchanged.

Evidence: S09 · S11 · S26 · S30

CRITERION RECORD · EVIDENCE

Wetlands and fens

1 / Resource or issue

Wetlands and fens within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(17): “The Project will not significantly degrade wetlands, and riparian areas.” [S01, PDF p.19].

Appendix A directs attention to structure and function, pollutant uptake, extent, species characteristics and diversity, and floodplain function.

September 15 proposed comparison

Section 406(C)(3) prohibits significant deterioration of wetlands and riparian areas in the Impact Area. Its express factors include structure and function, filtering and nutrient uptake, extent and vegetation change. Section 307(F) specifically requires a fen assessment; §406(A) requires compliance with the §307 plans.

3 / What the evidence shows

The full inventory overlay shows wetland and potential-fen habitat in every modeled flood zone, including shared portions of potential-fen polygons 3045 and 5491. Campaign photographs and films document the living fen complex. Permanent inundation would replace peat-forming vegetation and groundwater-fed habitat with reservoir habitat. Federal wetland guidelines recognize permanent flooding as a mechanism of habitat destruction (S28).

EPA describes fens as groundwater-fed peat systems whose natural formation can take up to 10,000 years. Federal mitigation regulations expressly identify fens as difficult to replace. The protected value includes the functioning peat, water regime and biological community accumulated here over time.

A construction condition cannot preserve a fen beneath the modeled reservoir. Any compensation proposal must therefore be tested against the full functional loss and its duration, including failure risk. Counting replacement acres or surviving transplanted plants is not a functional equivalence analysis.

Evidence: S01 · S02 · S10 · S11 · S12 · S13 · S14 · S26 · S27 · S28 · S30

CRITERION RECORD · ANALYSIS + POSITION

Wetlands and fens: the decision

4 / What remains to be resolved

Seasonal wetland/fen delineation, groundwater dependence, peat profiles, functional assessment and the actual mitigation proposal.

5 / Why it matters to this approval standard

The standard protects wetland structure and function. Permanent inundation and interrupted groundwater change the living resource the criterion addresses. Replacement performance and the duration of lost function belong in the compliance finding.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should find that inundation would cause significant, lasting loss of wetland structure and function, and that the offered mitigation and conditions leave that loss significant. Explain the evidence for lost groundwater relationships, peat-forming vegetation, habitat, filtering and recovery time. Deny under current §6.04.01(17), or draft §406(C)(3) if effective.

7 / What the Board must determine

Will the complete project significantly degrade wetland or riparian function after enforceable conditions?

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S10 · S11 · S12 · S13 · S14 · S26 · S27 · S28 · S30

CRITERION RECORD · EVIDENCE

Groundwater and peat water supply

1 / Resource or issue

Groundwater and peat water supply within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(16): “The Project will not significantly degrade groundwater quality.” [S01, PDF p.19].

Section 6.04.01(16) protects groundwater quality. Appendix A expressly includes aquifer recharge rates, groundwater levels, aquifer capacity, aquifer-stream interfaces and well function. Apply this with the wetland standard in (17) and the soil/geology standard in (20).

September 15 proposed comparison

Section 406(C)(2) expressly covers recharge, groundwater levels and aquifer capacity, and protects the capacity, function and quality of wells. Section 406(C)(3) protects wetland function. The §307 assessment extends to peripheral and downstream surface and subsurface resources.

3 / What the evidence shows

Fens depend on sustained groundwater delivery and chemistry. The utility’s project description includes water collection and pumping to existing Homestake Reservoir. The complete analysis must include dam foundations, trenches, pipelines, access works and any dewatering, as well as the inundation area. These works can intercept groundwater or change its connection to the creek and peat.

The flood maps identify direct inundation; the dam and downstream-work callouts identify additional construction exposure. Excavation, trenches and dewatering can interrupt the groundwater that sustains adjoining peatland, extending harm beyond the visible reservoir edge (S27, printed pp. 16 and 32).

Evidence: S01 · S02 · S08 · S09 · S12

CRITERION RECORD · ANALYSIS + POSITION

Groundwater and peat water supply: the decision

4 / What remains to be resolved

The applicant’s seasonal water levels, gradients, chemistry, dewatering assumptions and connected surface/subsurface model.

5 / Why it matters to this approval standard

Groundwater sustains the peat, vegetation and creek relationships under review. The impact assessment must connect each predicted water change to the protected resource and the relevant groundwater, wetland or soil criterion.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should deny significant groundwater-quality degradation or wetland functional loss that the operating plan and conditions leave unresolved. Connect the predicted change to the affected peat, stream or well under current (16)/(17)/(20), or the draft watershed provisions if effective.

7 / What the Board must determine

Which groundwater-quality and connected wetland changes remain under the selected design and operating plan?

Require seasonal water levels and gradients, groundwater chemistry, peat and substrate profiles, surface/subsurface connections, construction dewatering assumptions, with-project and no-project simulations, and monitoring thresholds. Identify the responsible party and corrective action before damage occurs. Under the draft, compliance with the watershed plans is itself required by §406(A).

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

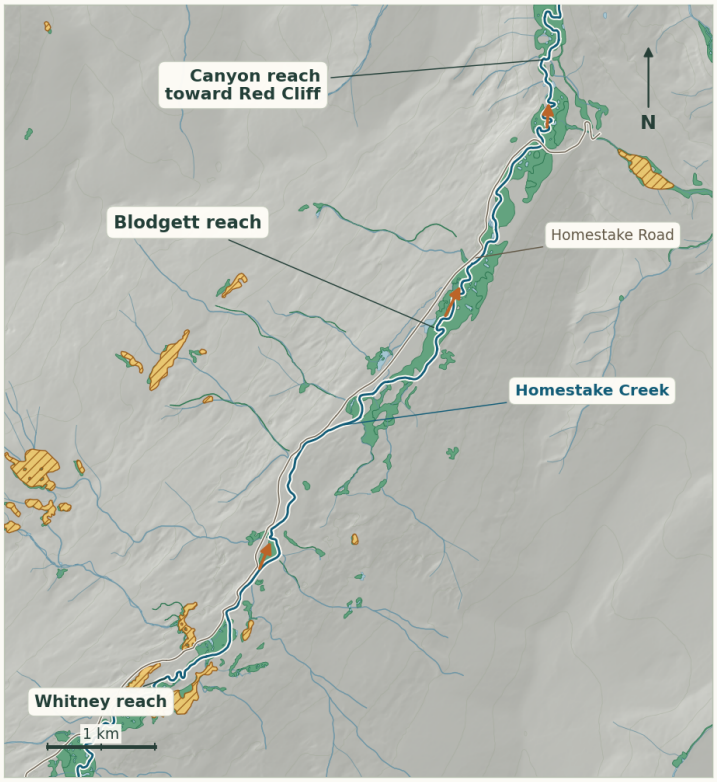
Evidence: S01 · S02 · S08 · S09 · S12

WHITNEY AND BLODGETT REACHES TOWARD RED CLIFF

Downstream wetlands at risk

DOWNSTREAM WETLANDS AT RISK

Homestake Creek · Whitney and Blodgett reaches toward Red Cliff



READ THE MAP

- Mapped wetlands
- Mapped potential fens
- Ponds and mapped water
- Homestake Creek
- Tributary channels
- Homestake Road
- Downstream flow

FOLLOW THE WATER

Upstream diversion changes water delivered through this valley-floor habitat network.

Less seasonal water can leave connected wetlands drier and stress water-dependent vegetation.

Fen protection includes the groundwater that keeps peat saturated.

Mapped habitats extend beyond the reservoir sites. The creek connects the reaches downstream.

Sources: CNHP wetlands and potential fens; USGS streams, terrain and road. Source exports: 18 Sep 2026.
Mapped habitat inventory. Flow sensitivity depends on surface-water and groundwater connections.
Blodgett general reach: Aurora Water 2019 concept map. Original polygon gaps preserved. EPSG:32613 · 20 Sep 2026.

Follow Homestake Creek beyond the proposed dam: a broad wetland landscape continues through the Blodgett reach and lower valley toward the canyon near Red Cliff. Its water connections belong in the project impact area.

Mapped wetland, water and potential-fen categories remain distinct. Evaluate seasonal flow and groundwater changes across this reach, including habitat outside the reservoir flood zones.

Evidence: S26 · S30 · S34

DOWNSTREAM WETLANDS AND THE CASE FOR DENIAL

Downstream water supports connected habitat

Reduced flows can lower shallow water tables and shorten the periods when the creek replenishes connected wetlands and side channels. That can leave wetland soils drier, stress willows and other water-dependent vegetation, and shrink the wet habitat that supports wildlife. The timing matters: capturing spring runoff and reducing water during dry periods can harm different parts of the same system.

Fens depend on sustained groundwater that keeps their peat saturated. Where altered creek levels or construction disrupt that supply, wetland plants can change and exposed peat can decompose, releasing stored carbon. Protecting a fen means protecting the water that keeps it alive, including the connections outside its mapped boundary.

Current and proposed protections

Current §§6.04.01(15)-(18) protect surface water, groundwater, wetlands and aquatic habitat; Appendix A includes aquifer-stream relationships and flow-dependent habitat. If effective in its September 15 form, proposed §§307 and 406 expressly require assessment of downstream surface and subsurface resources and protect these functions.

> The Board should deny significant downstream wetland or aquatic-habitat degradation left unresolved by mitigation and enforceable conditions. The Blodgett reach and lower-valley wetlands must be included in that finding.

Require matched with-project and no-project seasonal flows, wetland water levels, peat saturation and habitat assessments, including existing withdrawals, spring capture, summer low flows and consecutive dry years. Identify the flow and groundwater connections of each affected wetland.

Evidence: S01 · S02 · S27 · S32 · S33 · S34

CRITERION RECORD · EVIDENCE

Surface water and aquatic habitat

1 / Resource or issue

Surface water and aquatic habitat within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(15): “The Project will not significantly degrade surface water quality.” [S01, PDF p.19].

Sections 6.04.01(15) and (18) protect surface-water quality and aquatic life/habitat. Appendix A specifically identifies flushing flows, mine-waste dilution, temperature, sediment, spawning habitat and aquatic food webs.

September 15 proposed comparison

Section 406(C)(1) protects flows, hydrology and water quality, including a requirement that pollutant concentrations not increase over baseline. Section 406(C)(4) protects aquatic life and habitat, including off-channel habitat, oxygen, flushing flows and spawning/egg-to-fry survival. Section 408 requires consistency with the identified water-quality and stream-management plans.

3 / What the evidence shows

Appendix K of the Community Water Plan models a mean May zinc-load reduction requirement of 140.6 kilograms at baseline versus 434.3 kilograms under New Water Infrastructure with historical hydrology. The corresponding additional dilution volume rises from 495.5 to 1,530.3 acre-feet. These are about 3.1 times baseline, holding historical metal loading fixed.

This combined scenario includes 2050 demand growth, a potential MOU infrastructure/operations pathway and Bolts Lake. The May values measure relative ecological risk and mitigation burden under changed flows; they are not additional zinc discharges, annual totals or a regulatory violation finding. The numerical exhibit gives the exact source rows and method.

Evaluate spring capture and seasonal releases separately. Tie enforceable flow and quality commitments to the affected reaches, dry-year conditions and thresholds. An average annual water balance cannot explain a seasonal water-quality failure.

Evidence: S01 · S02 · S15 · S17 · S18

CRITERION RECORD · ANALYSIS + POSITION

Surface water and aquatic habitat: the decision

4 / What remains to be resolved

Whitney-specific matched hydrographs, temperatures, concentrations, release commitments and aquatic responses.

5 / Why it matters to this approval standard

Flow timing affects dilution, temperature and habitat. A matched project/no-project analysis connects the proposed operation to the surface-water and aquatic-life standards.

6 / Save Homestake’s position

> Save Homestake’s position: Capturing runoff can leave less water to dilute existing mine pollution. Require Whitney’s incremental flow, temperature and concentration effects to be evaluated against a matched no-project case. Deny where the resulting record shows significant surface-water or aquatic-habitat degradation under current law, or failure of the draft’s applicable watershed criteria.

7 / What the Board must determine

Would incremental quality or habitat effects remain significant under the actual operating conditions?

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S15 · S17 · S18

ORIGINAL APPENDICES CHECKED SEPTEMBER 20, 2026

Verified river-impact evidence

Whitewater opportunities • Appendix N §6, p. 22

Reach	Dry years	Wet years
Tigiwon to Dowd Junction	85% fewer days	48% fewer days
Edwards to Eagle	9% fewer days	10% fewer days

Published total whitewater boatable-day reductions: New Water Infrastructure with historical hydrology versus Baseline. The metric combines kayaking and rafting flow preferences. These percentages are the original analysts' reported results, not independently rerun simulations.

Zinc • Appendix K Tables 12-13, pp. 21-22

Mean May metric	Baseline	NWI-H
Load reduction to chronic rainbow-trout threshold	140.6 kg	434.3 kg
Additional discharge dilution gap	495.5 acre-feet	1,530.3 acre-feet

Mean monthly totals for the 2009-2016 assessment, holding historical loading patterns fixed while varying flow. The source narrative p. 9 rounds these to 140→434 kg and 496→1,530 acre-feet. Both comparisons are about 3.1 times baseline. Quantitative climate-change projections were excluded from this metals calculation.

The scenario boundary • Appendix C pp. 9-11

The baseline represents the plan's 2020 current conditions. NWI-H combines projected 2050 demand growth, one potential MOU infrastructure/operations pathway, and Bolts Lake redevelopment under historical hydrology. These are combined-development results. A Whitney permit record must quantify Whitney's incremental effects using matched assumptions.

Evidence: S15 · S16 · S17

CRITERION RECORD · EVIDENCE

Wildlife and habitat connectivity

1 / Resource or issue

Wildlife and habitat connectivity within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(18): “The Project will not significantly degrade terrestrial or aquatic animal life or its habitats.” [S01, PDF p.19].

Section 6.04.01(18) prohibits significant degradation of terrestrial or aquatic animal life or habitat. Appendix A names migration routes, seasonal range, calving, mating and nesting areas, threatened/endangered species, habitat features and food webs.

September 15 proposed comparison

Section 411 prohibits significant deterioration of wildlife or habitat in the Impact Area and requires CPW consultation documentation. Section 310 requires baseline, impact, mitigation and monitoring information, including corridors and seasonal habitat. Aquatic protection also appears in §406(C)(4).

3 / What the evidence shows

The 2019 applicant report identifies deer/elk winter range and potential sensitive-species habitat (Technical Report pp. 17-19). The campaign’s Valley Floor 1 archive documents repeated moose use of a creek-parallel route across seasons. Public photographs and films record wildlife in the wetland/forest mosaic at risk. Locations are generalized.

Save Homestake reports firsthand encounters with as many as four boreal toads in a single viewing. The assessment that this is uncommon comes from personal experience and Team Toad volunteering. These observations add a human field record of the wetland habitat at risk.

Reservoir inundation removes the existing terrestrial/wetland habitat. Roads, clearing, traffic, lighting and operation can add barriers and disturbance beyond the waterline. Habitat connectivity is itself a protected function.

Evidence: S01 · S02 · S10 · S11 · S09

CRITERION RECORD · ANALYSIS + POSITION

Wildlife and habitat connectivity: the decision

4 / What remains to be resolved

Current breeding/recruitment, habitat and movement surveys; complete facility footprint and offered mitigation.

5 / Why it matters to this approval standard

A connected habitat supplies breeding sites, movement routes and seasonal resources. The criterion reaches those functions as well as observed animals.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should find significant habitat loss, displacement or fragmentation where the mapped inundation, seasonal observations and ecological assessment establish it. Explain which important habitat functions remain lost after proposed mitigation. Apply current §6.04.01(18), or draft §411 and the aquatic provisions if effective.

7 / What the Board must determine

Which protected habitat functions would be lost, fragmented or significantly degraded, and what remains after mitigation?

Submit dated observations, habitat overlays and seasonal-use evidence. CPW consultation contributes expertise; the Board still must make the substantive compliance finding. Protect sensitive species locations in the public record.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S10 · S11 · S09

FIELD RECORDS + SCREENED OCCURRENCES

A growing local biological record

1,400

OBSERVATIONS

BioBlitz record in the reviewed v0.3 package

190

SPECIES-RANK CONCEPTS

Within 229 terminal taxonomic concepts

Quality grades: 618 Research Grade, 778 Needs ID and four Casual. These sum to the 1,400 observations. Taxonomic concepts and occurrence records measure different things; neither number is interchangeable with a count of verified species within a reservoir footprint.

Additional retained records

The package retains 233 screened GBIF/locality records, including 129 eBird-derived occurrences and 103 specimen records. These are additional source records with their own locality, age and precision; the record retains their attribution and screening decisions.

Historical upper-Homestake evidence

CNHP’s 2000 survey documents boreal-toad breeding and Colorado River cutthroat trout in upper Homestake tributaries (printed p.159 / PDF p.162). CPW’s 2006-2007 monitoring adds pond drying and recruitment uncertainty (printed p.36). These are historical, geographically identified records that guide present-day breeding, recruitment and fish-genetics work.

A corrected moose claim

Abouelezz and Hobbs studied 21 adult moose and 1,672 summer GPS locations in and near Rocky Mountain National Park during 2017-2018. About 90% were within approximately 285 m of mapped flowing or standing water; the mean was approximately 110 m. This is regional ecological evidence from that population, season and method. It replaces the unsupported universal half-mile assertion.

Evidence: HWF:REGISTRY · HWF:V3-17 · HWF:V3-24 · HWF:V3-01

GOVERNMENT RECORD + FIELD RECORD

Lynx: status, habitat and local record

The Canada lynx in the contiguous United States is federally threatened and is listed as endangered by Colorado. A final federal critical-habitat revision became effective August 17, 2026. Its Southern Rockies Unit 6 includes designated areas in Colorado, including portions of Eagle County.

Final rule and geography

The rule was published July 16, 2026 at 91 FR 43732, with an August 17 effective date. Unit 6 geography appears at printed p.43771 / PDF p.40; the regional map follows on p.43772 / PDF p.41. The governing boundaries include textual exclusions as well as mapped designation.

The separate local record

Save Homestake's 2017 down-valley camera image near Blodgett is a field record with its own date and location. The final regional designation, a local observation and the exposure of a particular project alternative are separate records to connect.

The decision-relevant next record

Obtain the final authoritative designation polygons and apply the textual exclusions to each actual reservoir, road, power and conveyance alternative. Pair that overlay with appropriate current occupancy and seasonal habitat evidence under §6.04.01(18).

Why it matters: habitat protection depends on the resource and function present, while final designation and local observations help identify the surveys, consultation and connected habitat questions the complete project must address.

Evidence: HWF:S22 · HWF:S39 · FED-ECFR-17.11-LYNX · S10 · S01

ECOLOGY EXHIBIT · SEPTEMBER 23, 2026

The connected wetland mosaic

CNHP's 2000 Eagle County survey documents boreal-toad breeding and a Colorado River cutthroat trout population in the upper Homestake tributaries. These historical records give amphibian breeding habitat and cold-water streams a documented place in the valley's conservation case. Current surveys should establish breeding, recruitment, fish genetics and seasonal water needs at the resources exposed to each project alternative.

Historical source: CNHP 2000, printed p.159 / PDF p.162 (HWF:V3-C003/004). CPW 2006-2007 monitoring, printed p.36, adds a record of pond drying and recruitment uncertainty. Keep the upper-tributary geography and historical period attached to these findings.

Homestake's fens, wet meadows, willow corridors, beaver ponds and streams sustain different parts of a living valley. The water connecting them matters through spring runoff, summer low flows and drought. Colorado field studies document changes to streamside vegetation below diversions and lasting damage to drained peat. Protecting Homestake means protecting the seasonal water and connected habitats that keep it alive.

A resource and function record

- Inventory each resource with survey date, extent, identification grade and positional precision. Use generalized public locations.
- Evaluate all permanent and temporary works: roads, pumping, power, tunnels/pipes, access, inundation and drawdown.
- Link measured water dependency to alternative-specific exposure, biological consequences and the applicable finding.

> Require the applicant to identify every wetland and habitat function exposed to the complete project, including construction, inundation, drawdown and altered seasonal flows. Establish the water sources of fens, wet meadows, willow corridors, beaver complexes and channel habitats, then compare current, no-action and project conditions at the same locations and times. Evaluate breeding hydroperiod, peat function, cold-water refuge, prey production and movement. Eagle County should deny where significant degradation remains under an applicable standard after proposed mitigation and enforceable conditions.

Evidence: HWF:V3-17 · HWF:V3-24 · S01 · S02

ECOLOGY EXHIBIT · SEPTEMBER 23, 2026

Measured functions the review must address

Colorado: channels, peat and beaver water

HWF:V3-ST02, Caskey et al.: 37 north-central Colorado reaches, including 16 pairs. Diversion reaches had smaller channel dimensions and vegetation shifts toward drier-site species (Methods; Table IV; pp.592-594).

HWF:V3-ST04, Schimelpfenig et al.: four restored Colorado fens. Summer water tables rose after ditch blocking, while disturbed surface peat still differed from reference peat at the site restored 20 years earlier (abstract, Table 1 and Results).

HWF:V3-ST03, Westbrook et al.: monitoring two dams in Rocky Mountain National Park found slower seasonal groundwater decline over 9 and 12 hectares, respectively. These are measured study areas, not additive or transferable buffers (USGS abstract).

Wildlife and food

HWF:V3-ST01, Abouelezz and Hobbs: 21 adults, 1,672 summer GPS locations in and near Rocky Mountain National Park, 2017-2018. About 90% were within 285 metres of mapped flowing or standing water (Methods; Table 1).

HWF:V3-ST11, Rhoades et al.: upper Shasta River, California, wet 2019. Late-season drifting prey approached zero below one diversion while streambed biomass could be higher. Measure prey delivery as well as standing stock (Methods; Results; Discussion).

> These studies identify functions to measure in Homestake: breeding-water duration, peat integrity, seasonal groundwater, habitat connections and food carried by flowing water.

Evidence: HWF:S31 · HWF:V3-07 · HWF:S12 · HWF:V3-01 · HWF:V3-21

ECOLOGY EXHIBIT · SEPTEMBER 23, 2026

Water and wetland criteria

Published current Chapter VI; §6.04.01 and Appendix A pp.iv-vi. Appendix A guides evaluation and is not a separate set of approval criteria.

§6.04.01(15) · Surface water

Daily current, no-action and project hydrographs at matched reaches; temperature, dissolved oxygen, sediment and flushing flows.

Finding: Magnitude, timing and duration of additional water-quality and channel change. Evidence: HWF:V3-ST02, HWF:V3-ST11, HWF:V3-C011.

§6.04.01(16) · Groundwater

Nested wells, creek/pond-stage correlations, recharge models and groundwater predictions for each potentially affected fen and meadow.

Finding: Which sites depend on the changed source, with the size and duration of water-level changes. Evidence: HWF:V3-ST03, HWF:V3-ST04, HWF:V3-PW01, HWF:V3-PW05.

§6.04.01(17) · Wetlands and riparian areas

Peat, hydroperiod, vegetation, water filtration and floodplain baseline; all permanent and temporary works and drawdown scenarios.

Finding: Direct and indirect functional loss, avoidance and duration of any replacement deficit. Evidence: HWF:V3-ST02, HWF:V3-ST03, HWF:V3-ST04, HWF:V3-ST05.

September 15 proposed crosswalk: Surface water §406(C)(1); Groundwater §§307(F), 406(C)(2); Wetlands and riparian areas §§307(F), 406(C)(3). Apply only if adopted, effective and applicable; check final numbering and transition provisions.

Evidence: S01 · S02 · HWF:S31 · HWF:V3-21 · HWF:V3-42 · HWF:S12 · HWF:V3-07 · HWF:S28 · HWF:S03 · HWF:V3-02 · HWF:V3-06

ECOLOGY EXHIBIT · SEPTEMBER 23, 2026

Habitat, plants and soils criteria

Published current Chapter VI; §6.04.01 and Appendix A pp.iv-vi. Appendix A guides evaluation and is not a separate set of approval criteria.

§6.04.01(18) · Animals and habitat

Breeding/recruitment surveys, fish genetics, movement, prey production and transport, and final critical-habitat GIS against actual alternatives.

Finding: Exposure and effects on the documented habitat, breeding, connectivity and food-web functions. Evidence: HWF:V3-C003, HWF:V3-C004, HWF:V3-ST06, HWF:V3-ST08, HWF:V3-ST11.

§6.04.01(19) · Plants and habitat

Specialist identifications and complete community plots paired with peat, hydrology and an invasive-plant baseline.

Finding: Affected communities and expected composition, structure and productivity changes. Evidence: HWF:V3-C007, HWF:V3-ST02, HWF:V3-ST05.

§6.04.01(20) · Soils and geology

Peat stratigraphy, drainage and erosion assessment; measurable restoration performance and recovery time.

Finding: Residual peat/soil loss and the credibility of replacement performance. Evidence: HWF:V3-ST04, HWF:V3-PW01.

September 15 proposed crosswalk: Animals and habitat §§307(G), 310, 406(C)(4), 411; Plants and habitat §§311, 412; Soils and geology §413. Apply only if adopted, effective and applicable; check final numbering and transition provisions.

Evidence: S01 · S02 · HWF:V3-17 · HWF:V3-24 · HWF:V3-04 · HWF:V3-05 · HWF:S11 · HWF:S34 · HWF:V3-18 · HWF:V3-21 · HWF:V3-34 · HWF:S31 · HWF:V3-06 · HWF:V3-07 · HWF:S28 · HWF:S03

CRITERION RECORD · EVIDENCE

Plants, peat and soils

1 / Resource or issue

Plants, peat and soils within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(19): “The Project will not significantly deteriorate terrestrial plant life or plant habitat.” [S01, PDF p.19]. Read (19) with (20): “The Project will not significantly deteriorate soils and geologic conditions.”

Section 6.04.01(19) protects terrestrial plant life and habitat from significant deterioration. Appendix A includes vegetation structure, function, species composition, diversity, biomass and productivity. Section (20) separately protects soils and geologic conditions.

September 15 proposed comparison

Section 412 protects terrestrial plant communities. Sections 311 and 413 address vegetation evidence and soil/geologic protection; §432 governs revegetation and invasive species. Fen vegetation also falls within the watershed and wetland analysis.

3 / What the evidence shows

The applicant’s 2019 report describes forest, meadows and wetlands (p. 21). Campaign photographs and modeling show conversion of living fen vegetation to open water and reservoir shore. Its peat-forming plants, substrate and groundwater regime function together; flooding changes that system even if plants grow elsewhere.

The 1994 Homestake II decision records competent evidence of predicted wetland degradation and ineffective mitigation threatening rare moss in that earlier project. It demonstrates the legal importance of specific botanical evidence. Whitney’s findings should identify the plant communities and functions documented within its own impact area.

Evidence: S01 · S02 · S07 · S10 · S11 · S12 · S09

CRITERION RECORD · ANALYSIS + POSITION

Plants, peat and soils: the decision

4 / What remains to be resolved

Botanical community plots, peat and soil profiles, complete impact footprint and demonstrated recovery functions.

5 / Why it matters to this approval standard

Plant composition, peat structure and hydrologic support operate together. The protected resource includes the existing community and the time needed to recover its function.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should deny where inundation, excavation or altered groundwater would cause significant deterioration of the documented plant community or plant habitat, and the mitigation leaves that harm significant. State the affected community, its extent, function and recovery constraints under the current or effective replacement criterion.

7 / What the Board must determine

Would plant habitat or peat/soil condition significantly deteriorate after enforceable conditions?

Require seasonal botanical inventory, mapped vegetation communities, peat and soil characterization, hydrologic requirements, and separate evaluation of construction disturbance and permanent inundation. A revegetation plan for temporarily disturbed ground addresses a different impact from permanent conversion beneath a reservoir.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S07 · S10 · S11 · S12 · S09

CRITERION RECORD · EVIDENCE

Recreation and public experience

1 / Resource or issue

Recreation and public experience within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(11): “The Project will not have a significant adverse effect on the quality or quantity of recreational opportunities and experience.” [S01, PDF p.19].

Section 6.04.01(11) protects the quality and quantity of recreational opportunities and experience. Appendix A names visitor days, rafting/kayaking seasons, fisheries, flows and reservoir levels, access, trails, wilderness experience and solitude.

September 15 proposed comparison

Section 423 retains a significant-degradation standard for opportunities and experience in the Impact Area. Section 321 requires recreation assessment, including access, boating, fishing seasons and heat closures, trails and wilderness experience.

3 / What the evidence shows

The applicant’s 2019 report identifies FR703 access to Gold Park Campground, Holy Cross Wilderness trailheads and Homestake Reservoir, and camping, hiking, fishing, boating and wildlife viewing (p. 22). Campaign photographs and modeling depict the existing landscape and its conversion. Assess displaced uses, access closures, noise and operating water levels.

Appendix N reports 85% fewer whitewater boatable days in dry years and 48% fewer in wet years on the Tigiwon-to-Dowd reach in the combined New Water Infrastructure historical-hydrology scenario. Edwards-to-Eagle losses are 9% and 10%. These are modeled flow opportunities for kayaking and rafting, not measured Whitney-only losses.

Require a mapped inventory of access, trails, campsites and use areas; affected seasons and closure durations; flows and operating water levels; and user testimony. Evaluate any proposed reservoir recreation on its actual access, safety, season and operating conditions. Tie the decision to current §6.04.01(11), or draft §423 if effective.

Evidence: S01 · S02 · S10 · S11 · S15 · S16 · S09

CRITERION RECORD · ANALYSIS + POSITION

Recreation and public experience: the decision

4 / What remains to be resolved

Applicant’s access and closure schedule, operational water levels, existing-use record and recreational effects.

5 / Why it matters to this approval standard

The code protects the experience people already have here, including access, season, scenery and quiet. The Board must evaluate changes to that existing experience.

6 / Save Homestake’s position

> Save Homestake’s position: The code protects the quality of recreation, not just a count of replacement amenities. Deny if the evidence shows significant loss of the existing stream, trail, habitat-viewing or wilderness experience after evaluating the recreation actually proposed and the harm that remains.

7 / What the Board must determine

Would the quality or quantity of existing recreation significantly decline after proposed measures?

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S10 · S11 · S15 · S16 · S09

CRITERION RECORD · EVIDENCE

Noise, roads, power and maintenance

1 / Resource or issue

Whitney would bring an operating system into a landscape valued for quiet, wildlife and public recreation. Pumps, electrical equipment, access roads and conveyance facilities need recurring service. Noise, traffic, light and repair activity belong in the permit decision throughout the project's life.

2 / What the governing code requires

§6.04.01(21): "The Project will not cause a nuisance." [S01, PDF p.19].

Section 6.04.01(21) prohibits a nuisance. Appendix A identifies dust, fumes, glare, heat, noise, vibration, artificial light and traffic. Recreation and visual criteria, (11) and (14), separately protect public experience and scenery.

September 15 proposed comparison

Section 429 protects use and enjoyment of property in the Impact Area and existing owners from nuisance. Sections 425-426 address traffic and road costs; §§430, 410, 423 and 431 address dust, air, recreation and scenery. Section 327 requires construction and operation nuisance assessment.

3 / What the evidence shows

CSU describes pumping and conveyance (S08, p. 1; S29). Construction introduces equipment, haul traffic, excavation and work areas. During operation, pumps and associated equipment can produce recurring noise and vibration; inspections and repairs add service traffic and renewed work. The field archive documents the present landscape and use (S10).

The Homestake II decision records evidence of noise, dust and tunnel-work effects on recreation and scenery that supported denial of that earlier design (S07). For Whitney, the component tables identify the sources and phases to evaluate against the valley's existing quiet and uses.

Evidence: S01 · S02 · S07 · S08 · S10 · S29

CRITERION RECORD · ANALYSIS + POSITION

Noise, roads, power and maintenance: the decision

4 / What remains to be resolved

Applicant’s equipment, receptor, noise, vibration, traffic, lighting and maintenance assessments for construction and operation.

5 / Why it matters to this approval standard

Recurring operation and maintenance can affect the same quiet, access and enjoyment exposed during construction. The nuisance test applies to the actual disturbance left after controls.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should deny where construction or continued operation causes a nuisance the proposed controls leave unresolved. Apply current (21), or draft §429 within its property/use scope. Independently deny significant recreation or scenery degradation under current (11)/(14), or draft §§423/431.

7 / What the Board must determine

Will construction or continued operation cause a nuisance after the proposed controls?

The finding should identify the affected uses, sound and vibration characteristics, timing, lighting, haul/service traffic, closures and maintenance schedule. Assess equipment enclosures, hours and other controls against the actual disturbance that remains.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S07 · S08 · S10 · S29

CRITERION RECORD · EVIDENCE

Landscape, cultural and historic resources

1 / Resource or issue

Landscape, cultural and historic resources within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(14); §6.04.01(22): “The Project will not significantly degrade existing visual quality. / The Project will not significantly degrade areas of paleontological, historic, or archaeological importance.” [S01, PDF p.19].

Current §6.04.01(14) protects existing visual quality; (22) protects areas of paleontological, historic or archaeological importance. Draft §431 protects visual quality in the Impact Area; §424 protects the identified cultural-resource areas. Sections 322 and 329 require the associated evidence.

3 / What the evidence shows

The field views and reservoir model show conversion of the creek, fen and forest setting. Add the visible dam, pump buildings, cleared access, portals and selected electrical works to that view. Full-pool, normal-operation and low-water views should show the complete operating landscape and its effects on existing scenery.

The Camp Hale-Continental Divide proclamation recognizes Ute relationships and military history in this mountain landscape. These connections give the cultural review its human importance. Whitney’s mapped footprint and associated works must be surveyed for the actual historic, archaeological and cultural resources affected, with meaningful Tribal participation and protected confidential locations.

Flooding, excavation, blasting or road relocation can destroy physical evidence and alter a resource’s setting. Require the relevant surveys, eligibility and significance determinations, effect analysis, consultation record and avoidance/treatment commitments for all facilities.

Evidence: S01 · S02 · S08 · S10 · S11 · S21

CRITERION RECORD · ANALYSIS + POSITION

Landscape, cultural and historic resources: the decision

4 / What remains to be resolved

All-facility viewsheds and operating levels; professional inventories, significance findings and meaningful Tribal participation.

5 / Why it matters to this approval standard

Scenic character and documented historic or archaeological importance are separate protected interests. Each finding should identify the affected resource, project effect and remaining harm.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should find significant visual degradation or deterioration where the modeled change, viewpoints and operating range establish it, and explain why siting, screening or other conditions leave that harm significant. Apply current (14), or draft §431 if effective.

> Save Homestake’s position: For current (22) or draft §424, identify the documented important resource and the significant degradation/deterioration the project would cause after proposed treatment. Deny where that criterion remains unmet. Keep this finding distinct from the broader policy position to preserve the entire valley.

7 / What the Board must determine

Will documented scenery or important historic/archaeological areas suffer significant degradation after treatment?

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S08 · S10 · S11 · S21

CRITERION RECORD · EVIDENCE

Demonstrated necessity

1 / Resource or issue

Demonstrated necessity within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.02(3): “The Project shall be necessary to meet community development and population demands in the areas to be served by the Project.” [S01, PDF p.20].

Appendix A identifies reasonable growth projections, local land-use plans and relationships to other providers’ service areas.

September 15 proposed comparison

The draft has no equivalent standalone Article 4 necessity test. Sections 303(D) and 331(B) still require need, demand and projection information. That information also matters to feasibility, dependable supply and efficient use, but the omitted necessity criterion cannot be treated as if it remains in Article 4.

3 / What the evidence shows

The March 2022 utility fact sheet presents Whitney as part of a larger supply program and describes a range of potential storage capacities. A program target and a storage volume do not quantify the specific service-area demand Whitney must meet after existing investments, conservation and reuse.

The current criterion lets the County require a demonstrated relationship between the proposed sacrifice and a reasonable, documented need. Service-area forecasts, demand management and dependable delivery belong in the same comparison.

Evidence: S01 · S02 · S08

CRITERION RECORD · ANALYSIS + POSITION

Demonstrated necessity: the decision

4 / What remains to be resolved

Current service-area demand, reasonable growth, existing/committed supplies, Whitney-only dependable yield and alternatives.

5 / Why it matters to this approval standard

Necessity depends on actual demand, committed supplies and dependable additional delivery. A common reliability basis makes the comparison with demand management and alternatives useful.

6 / Save Homestake’s position

> Save Homestake’s position: Under current §6.04.02(3), deny if the applicant fails to establish that Whitney is necessary to meet documented community development and population demands. Identify the unsupported demand assumption, available alternative portfolio or mismatch between the project and demonstrated need.

7 / What the Board must determine

Has the applicant demonstrated necessity under a defensible service-area demand and supply record?

Require measured demand, reasonable growth forecasts, committed supplies, adopted projects, emergency-reserve objectives, conservation and reuse assumptions, and a common reliability standard. Compare a no-Whitney portfolio under the same assumptions. The current application’s alternatives requirements provide the record for this assessment.

Before adoption, restore necessity as an explicit approval standard. If the draft takes effect unchanged, direct the same demand evidence to the standards it actually retains rather than claiming the former test still governs.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S08

CRITERION RECORD · EVIDENCE

Efficient use, conservation and reuse

1 / Resource or issue

Efficient use, conservation and reuse within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.02(1): “The Project shall emphasize the most efficient use of water, including the recycling, reuse and conservation of water.” [S01, PDF p.20].

Current §6.04.01(12) also addresses resource conservation, energy efficiency and recycling/reuse. Appendix A asks about readily available conservation and recycling to the greatest extent allowed by law.

September 15 proposed comparison

Section 434(D) requires planning, design and operation emphasizing the most efficient use of water, including recycling and reuse. It omits the express word “conservation” found in current §6.04.02(1). Conservation remains expressly required in the §331(A)(3) and §331(E) application materials. The same narrower §434(D) wording appeared in July as §435(D).

3 / What the evidence shows

The proposed system collects and pumps headwater water for additional supply. Demand reduction, lawful reuse and existing-system improvements should be evaluated in dependable acre-feet, timing, cost and environmental effect. The code’s efficiency requirement concerns how the project is actually planned and operated.

Require measured distribution losses, outdoor-demand measures, feasible recycling/reuse, legal limits, seasonal demand, operating losses and the energy implications of pumping. Identify additional savings beyond measures already assumed in the baseline.

Evidence: S01 · S02 · S05 · S08

CRITERION RECORD · ANALYSIS + POSITION

Efficient use, conservation and reuse: the decision

4 / What remains to be resolved

Measured progress and remaining practicable savings, with implementation dates and independently reviewable assumptions.

5 / Why it matters to this approval standard

Measured conservation and reuse affect how much additional source water is needed and how efficiently the project operates. Crediting existing progress establishes the correct baseline for additional potential.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should deny under current §6.04.02(1) when the record fails to demonstrate the required emphasis on the most efficient use, including conservation, recycling and reuse. Under the draft, identify the specific failure of §434(D), using the conservation and efficiency evidence the applicant must submit.

7 / What the Board must determine

Does the proposed project emphasize the most efficient use of water under the actual planning and operating record?

Conditions must be measurable and enforceable: the measure, implementation date, achieved savings, monitoring, funding and response to failure. A general promise of future efficiency cannot substitute for a compliance finding. Restore express conservation language in the substantive approval standard before adoption.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S05 · S08

UTILITY REPORTS + PLANNING RECORD

Credit the progress. Quantify what remains.

Aurora and Colorado Springs have real supply-planning responsibilities and documented conservation and reuse progress. That progress belongs in the starting baseline for a fair, practical alternatives comparison.

Progress already reported	Additional practicable potential / record needed
Aurora reports a 36% reduction in water use since the early 2000s and a use rate of 115 gallons per person per day. [MUN-S01]	Its stated goal is a further 10% consumption reduction by 2040. Verify the baseline and additionality before converting the goal to annual AF.
Aurora’s 2022 ordinance restricts ornamental turf in new development. Prairie Waters supplies up to 10 million gallons daily, according to the mayor. [MUN-S02]	Obtain actual annual reuse deliveries, existing turf by category and additional savings beyond adopted demand assumptions. Capacity is distinct from actual annual production.
CSU reports per-capita consumption down 40% since 2001 and 71,960 AF delivered to its potable distribution system in 2024. [MUN-S04]	Its 2025 update cites 7,900 AF of achievable conservation savings through 2070. Obtain the underlying study’s annual schedule and baseline. [MUN-S05]
CSU reports 276 AF/year of savings from 2024 conservation work. [MUN-S05]	Compare further implementation measures with Whitney-only dependable annual yield under the same reliability, timing and legal-availability assumptions.

Outdoor demand is a useful planning category

Aurora’s mayor describes outdoor irrigation as historically about 50% of total annual use; CSU’s 2022 plan estimates irrigation at about 40% of annual potable demand. Those dated scopes identify a demand-management opportunity. Current outdoor AF/year and practicable additional savings require a matched current dataset. [MUN-S02; MUN-S06]

Compare annual savings with annual dependable supply. The 6,850-20,000 AF Whitney storage concepts are a capacity measure, not an annual-yield denominator.

Evidence: MUN-S01 · MUN-S02 · MUN-S04 · MUN-S05 · MUN-S06 · S08

CRITERION RECORD · EVIDENCE

Dependable supply and feasible operation

1 / Resource or issue

Dependable supply and feasible operation within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(5): “The Project is technically and financially feasible.” [S01, PDF p.19].

Current §6.04.01(5) requires technical and financial feasibility; §6.04.02(3) requires necessity. Apply the required project, water-supply, cost and operating information to those tests. Section 6.04.01(8) also protects local service capacity; Appendix A expressly considers reductions in water available for future County supply.

September 15 proposed comparison

Section 409 expressly requires adequate supplies for current and future operational needs in quantity, quality and dependability. Section 403 requires technical and financial feasibility, including operation, mitigation and monitoring costs. Section 308 requires sources, legal rights, amounts, diversion changes, existing uses and alternative supplies.

3 / What the evidence shows

The utility’s March 2022 sheet gives Whitney storage concepts ranging from 6,850 to 20,000 acre-feet and describes uphill pumping to existing Homestake Reservoir. Storage capacity, annual deliveries and drought reliability measure different things. The key question is what additional useful water the proposed operation can reliably provide.

Senior rights and governing agreements, refill opportunities, consecutive dry years, evaporation, release commitments, conveyance capacity and power-dependent pumping affect dependable delivery. The same operating model must show reservoir water levels and exposed bed area, which affect scenery, habitat, dust and recreation.

Evidence: S01 · S02 · S08 · S22

CRITERION RECORD · ANALYSIS + POSITION

Dependable supply and feasible operation: the decision

4 / What remains to be resolved

Whitney-only annual/dry-year yield, refill, senior-right constraints, environmental releases, pumping limits and life-cycle costs.

5 / Why it matters to this approval standard

Reliable delivery depends on physical capacity, legal availability, refill and dry-year operation. These conditions connect the supply promise to feasibility and necessity.

6 / Save Homestake’s position

> Save Homestake’s position: The Board should deny if the applicant fails to establish technical/financial feasibility under current §6.04.01(5), or adequate dependable operational supply under draft §409 if effective. Identify the decisive operational or legal constraint and its effect on the proposed project.

7 / What the Board must determine

Are the proposed system and promised deliveries technically and financially feasible under the governing record?

Require an independently reviewable water balance with matched with-project/no-project runs, dry sequences, senior-right administration, applicable agreements, pumping and conveyance limits, environmental releases, refill time and full lifecycle costs. Explain which promised deliveries remain dependable and which rely on conditions that are not secured.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S08 · S22

CRITERION RECORD · EVIDENCE

County benefits and resource losses

1 / Resource or issue

County benefits and resource losses within the complete construction and operating impact area.

2 / What the governing code requires

§6.04.01(24): “The benefits accruing to the County and its citizens from the Project outweigh the losses of any natural, agricultural, recreational, grazing, commercial or industrial resources within the County, or the losses of opportunities to develop such resources.” [S01, PDF p.20].

Section 6.04.01(24) requires benefits accruing to Eagle County and its citizens to outweigh losses of natural, agricultural, recreational, grazing, commercial or industrial resources, or opportunities to develop them. Section (10) separately protects current and foreseeable local economic sectors; (9) prohibits an undue financial burden on County residents.

September 15 proposed comparison

The draft omits an equivalent standalone benefits-versus-resource-loss test. Section 422 still prohibits significant degradation of any segment of the County economy. Sections 419 and 420 address local government services and undue tax burden, with different wording and scope from current law.

3 / What the evidence shows

The utility fact sheet identifies a broader MOU goal of 20,000 acre-feet of average annual East Slope supply and 10,000 acre-feet of firm dry-year West Slope supply. Those are program goals. The Board needs binding, incremental benefits attributable to Whitney, compared with permanent losses in Homestake.

CROA estimates 2024 Upper and Lower Eagle commercial rafting direct expenditures at a combined $1,513,348 across 9,200 user days. Appendix N documents modeled boating-day reductions under the combined development scenario. Together they identify an existing livelihood pathway exposed to flow changes. They do not yield a Whitney-specific dollar-loss calculation.

Evidence: S01 · S02 · S08 · S16 · S19

CRITERION RECORD · ANALYSIS + POSITION

County benefits and resource losses: the decision

4 / What remains to be resolved

Binding County deliveries and other benefits, recipients, timing and reliability; permanent losses and future opportunities.

5 / Why it matters to this approval standard

The current rule explicitly compares County benefits with County resource and opportunity losses. Reliable commitments, permanence and the distribution of effects make that comparison meaningful.

6 / Save Homestake’s position

> Save Homestake’s position: Under current §6.04.01(24), deny if demonstrated County benefits fail to outweigh the documented local resource and opportunity losses. Separately, apply (10) where the evidence establishes significant local economic degradation. If the draft governs, use §422 for the economic harm and the individual environmental standards for resource loss.

7 / What the Board must determine

Do benefits accruing to Eagle County and its citizens outweigh County resource and opportunity losses?

Compare enforceable local deliveries, reliability and fiscal benefits against lost habitat, recreation, access, economic opportunity and ongoing management costs. Account for permanence and who receives the benefits and bears the costs. Request restoration of the standalone County-benefit test before adoption.

8 / Evidence

Direct source links appear below. Original code, applicant and ecological exhibits are reproduced at the end of this dossier; the source register retains document pinpoints.

Evidence: S01 · S02 · S08 · S16 · S19

RIGHTS, BOUNDARIES AND JURISDICTION

Protect the public-land setting

Save Homestake opposes any change to the Holy Cross Wilderness boundary. The valley’s protected setting and public access must be considered across all facilities and routes, including the conveyance system and recurring maintenance.

Property rights and approvals

Current §6.04.01(1) and draft §404 require necessary property rights, permits and approvals before site disturbance, and allow the Board to defer a decision until outstanding approvals are obtained. Overlay each facility and access route on governing ownership, wilderness and other protected boundaries.

A water right authorizes what its decrees provide; the County’s land-use criteria remain an independent approval requirement. Homestake II upheld denial of a particular noncompliant design while recognizing the cities’ underlying water rights (S07).

Connected effects and geographic authority

Draft §109 defines the Impact Area by likely project effects. Including another political subdivision’s territory under that definition requires a Board intergovernmental agreement for cooperative regulation in both jurisdictions. Document the connected river effects and apply the governing jurisdictional provisions.

> The Board should enforce every applicable County protection across the connected project. Neither a water right nor an approval from another agency establishes compliance with all County criteria.

Evidence: S01 · S02 · S07 · S09 · S21 · S29

ECOLOGY EXHIBIT · SEPTEMBER 23, 2026

Priority records and field measurements

Proposed requests and survey work, not submitted. Each measurement resolves a named exposure or approval question.

- P0 · Applicant: complete alternatives, all works and daily operating hydrographs. Resolve exposure for every criterion and PW01-PW07.
- P0 · CNHP / USFS: original fen plots, peat measurements, delineations and service-version correspondence. Resolve wetland, groundwater, plant and soil baselines under (16), (17), (19) and (20).
- P0 · CPW: historic/current toad surveys, completed fish stockings and reach genetics. Resolve breeding and aquatic-habitat evidence under (18).
- P1 · Hydrology specialists: paired creek/pond stage and nested wells from snowmelt through late-summer low flows, including reference sites and drought sequences. Resolve source-water connection under (15)-(17).
- P1 · Permitted specialists: repeated breeding/recruitment, prey drift/emergence, fish-refuge and community-plot surveys. Resolve biological consequences under (18)-(20).
- P1 · Applicant / wildlife specialists: final lynx critical-habitat GIS and seasonal movement analysis against every actual alternative. Resolve distinct designation, occupancy and exposure questions.

Current §6.03.10: state the evidence supporting each applicable finding and the enforceable conditions needed to ensure compliance. Proposed decision provision: §211. Monitoring should verify demonstrated compliance, with measurable thresholds and correction responsibilities.

GIS check, September 23: 18 older-service features versus six in Fens 2025 in the same envelope. Geometry comparison also found differences. Retain the existing dated map until CNHP resolves source currency and classification. See the public comparison supplement and HWF:V3-C006.

> Eagle County should deny a project that leaves an applicable approval standard unmet. The resource record must cover ecological function through time, including the duration of any replacement deficit.

Evidence: S01 · S02 · HWF:V3-17 · HWF:V3-24

ATTRIBUTED POSITION · FOR THE BOARD’S EVALUATION

Save Homestake’s requested findings

The finding must connect harm to the rule

- Identify the governing version, exact section and protected resource.
- Identify the project component, affected area, timing and duration.
- Cite the source, observation, model or expert testimony establishing the effect.
- Explain why the effect meets the criterion’s threshold, including significance where the rule uses it.
- Evaluate the mitigation actually offered and any proposed conditions. Explain the remaining harm or unsupported compliance claim.
- State the resulting failure and decision. One unmet applicable criterion can support denial; the findings should also preserve independent grounds.

A proposed fen finding

> Save Homestake proposes the following finding where the final project and mitigation record support it: For the modeled alternative under review, inundation would replace the documented groundwater-fed peat-forming community with reservoir habitat. The record establishes significant losses of wetland structure, function and vegetation. The proposed compensation and operating conditions leave those losses significant for the reasons identified in the ecological and hydrologic evidence. The project therefore fails current §6.04.01(17), or §406(C)(3) of the effective replacement code, and the permit is denied.

Support this finding with mapped impact acreage, functional assessment, duration, mitigation and cited exhibits. Evaluate the displayed alternative and elevation. Modeled consequences can be assessed before a final engineering selection.

Evidence that should accompany the finding

Submit the georeferenced project/fen overlay; dated photographs and generalized wildlife records; wetland, botanical and hydrogeologic assessments; operating water balance and levels; recreation/access inventory; and a mitigation analysis comparing the same functions and time periods. For other grounds, attach the specific water-quality, demand, benefit, nuisance or cultural evidence identified in this dossier.

The Board should state which offered conditions it considered and why they do or do not ensure compliance. Unrelated supply benefits do not erase a failed individual environmental standard in either version.

Evidence: S01 · S02 · S06 · S07 · S10 · S11

WHAT CHANGES IF THE SEPTEMBER DRAFT BECOMES LAW

Keep the rewrite strong enough to protect Homestake

Protections retained and strengthened in detail

The draft retains individual watershed, wildlife, vegetation, recreation, economy, nuisance and scenery standards. Sections 307 and 406 integrate flow, groundwater and habitat evidence; §307(F) explicitly names fens. Section 109 includes cumulative County land-use effects and waterbodies beyond federal or state dredge-and-fill jurisdiction, within its definition.

Protections to restore

- Restore current §6.04.01(24)’s County-benefit-versus-resource-loss approval test.
- Restore current §6.04.02(3)’s standalone necessity approval test. Need information remains required in §§303(D) and 331(B), but the Article 4 test is absent.
- Restore the July draft’s §331 alternatives analysis and §434 least-adverse-alternative standard. September still requires configuration justification and alternative water-source information; these are narrower than the deleted tests.
- Restore express conservation in §434(D). Efficiency, recycling and reuse remain substantive requirements; §§331(A)(3) and 331(E) still require conservation information.
- Name fens and their supporting groundwater directly in §406, alongside the fen assessment already required in §307(F).

Preserve the route to a public compliance decision

Draft §§105(C) and 201(B) exempt covered activities that were or will be reviewed and approved through specified County subdivision, PUD or special-use processes. Section 204 permits a finding of no significant impact only upon finding that Article 4 standards will be satisfied without mitigation or through adequate mitigation under other County, state or federal permitting. Section 301(B) permits waiver of irrelevant application materials, not Article 4 standards.

> Ask the County to carry the substantive 1041 protections and meaningful public participation into every County-created substitute process or discretionary no-significant-impact route. A consequential reservoir should receive a complete public record and an express decision on the protections that apply.

If a revised text is adopted, compare the enacted provisions and effective-date resolution before applying this draft crosswalk. The September 15 analysis should remain clearly dated.

Evidence: S01 · S02 · S03 · S04 · S05

INSPECT THE ORIGINAL RECORD

Source register

GOVERNMENT RECORD

S01 · Eagle County, current adopted Chapter VI

Published adopted Chapter VI, independently checked September 23, 2026. Archived EnCode export: decision §6.03.10, PDF pp.16-17; criteria §§6.04.01-.02, PDF pp.19-20; Appendix A, PDF pp.24-29. County-linked legacy layout contains equivalent criteria with different pagination. Original pertinent pages attached.

https://online.encodeplus.com/regs/eaglecounty-co/export2doc.aspx?pdf=1&tocid=001.005

GOVERNMENT RECORD

S02 · Eagle County, September 15, 2026 proposed 1041 regulations

Latest proposed text located on the official application record as of September 23, 2026: September 15, 2026 draft. Printed page numbers are four less than PDF numbers. Proposed §§109, 211, 301-331 and 401-434. No adoption/effective date verified. Original pertinent pages attached.

https://drive.google.com/file/d/1B_zzF_EPkCM-EEesowGCpAxUNJlpGcuJ/view

GOVERNMENT RECORD

S03 · Eagle County, active application LUR-009633-2026

Official LUR-009633-2026 record checked September 23, 2026. Recommendation hearing scheduled September 23; no completed recommendation/vote verified. Board adoption hearing scheduled October 27, 2:30-4 p.m. Posted recommendation resolutions have blank votes/signatures.

https://www.eaglecounty.us/departments___services/community_development/planning/active_land_use_applications.php

GOVERNMENT RECORD

S04 · Eagle County, September 23 staff report

pp. 1 and 8: proposed separate reenactment and recommended simultaneous effective date, with current rules continuing without a lapse.

https://drive.google.com/file/d/1Ds_syc5rncKAY-1eQKwARTvbt2Bu5NZt/view

GOVERNMENT RECORD

S05 · Eagle County, July 10 comparison draft

§331 alternatives analysis and §434 least-adverse alternative; compare September replacement. July printed pages are nine less than PDF page numbers.

https://drive.google.com/file/d/1bf9uCV_eMQtK57Uic9to2wWfc1n5U6Vi/view

INSPECT THE ORIGINAL RECORD

Source register

GOVERNMENT RECORD

S06 · Colorado Revised Statutes 2026, Title 24

§24-65.1-501(4): compliance and denial. Read with County conditional-approval provisions.

https://olls.info/crs/crs2026-title-24.pdf

COURT DECISION

S07 · City of Colorado Springs v. Board of County Commissioners, 895 P.2d 1105

Colo. App. 1994. Homestake II wetlands and nuisance findings, competent evidence, county authority, and retained water rights.

https://law.justia.com/cases/colorado/court-of-appeals/1994/93ca0386-0.html

UTILITY STATEMENT

S08 · Colorado Springs Utilities, Eagle River Joint Use Water Project

March 2022, pp. 1-2. Broader MOU goals, Whitney storage concepts, tributary collection and pumping to existing Homestake Reservoir.

https://www.csu.org/hubfs/Document-Library/EagleRiverJointUseWaterProjectFactSheet.pdf?hsLang=en

GOVERNMENT RECORD

S09 · Homestake Partners, Whitney Reservoir geotechnical investigation application

June 25, 2019. Proposed investigation; alternative dam alignments and exploration/access maps: Technical Report Figure 1 p. 3 / PDF p. 11; Figures 3-5 pp. 6-8 / PDF pp. 14-16.

https://newspack-coloradosun.s3.amazonaws.com/wp-content/uploads/2019/11/6.25.19-Whitney-Reservoir-drilling-permit-app.pdf

FIELD RECORD

S10 · Save Homestake, public field archive and modeled reservoir comparison

Campaign photographs, films, generalized wildlife locations and testimony. Compare the four modeled reservoir alternatives in the valley explorer; field record updated September 12, 2026.

https://savehomestake.com/footage/

INSPECT THE ORIGINAL RECORD

Source register

SAVE HOMESTAKE MODEL

S11 · Save Homestake, the case and valley explorer

Campaign interpretation of the mapped fen complex and modeled reservoir alternatives. Model-based conclusions concern the displayed alternatives and water elevations.

https://savehomestake.com/evidence/

GOVERNMENT RECORD

S12 · U.S. EPA, Classification and Types of Wetlands: Fens

Groundwater-fed peat systems, characteristic hydrology and vegetation; natural formation can take up to 10,000 years.

https://www.epa.gov/wetlands/classification-and-types-wetlands#Fens

GOVERNMENT RECORD

S13 · 33 C.F.R. §332.3(e)(3), compensatory mitigation

Federal rule expressly identifies fens among difficult-to-replace resources and addresses suitable compensation. Corroborates replacement difficulty; County standards provide the local decision rule.

https://www.ecfr.gov/current/title-33/chapter-II/part-332/section-332.3

RESEARCH / SOURCE RECORD

S14 · Chimner and Cooper, Mountain Fen Restoration in Colorado: An Overview

2012, International Peat Congress. Restoration evidence and long recovery of peat physical properties. Full paper linked from the publisher record.

https://peatlands.org/document/moutain-fen-restoration-in-colorado-an-overview/

RESEARCH / SOURCE RECORD

S15 · Eagle River Community Water Plan, Appendix C

§2.1.2 p. 9: 2020 current-conditions baseline; §2.1.5 p. 11: combined New Water Infrastructure scenario.

https://drive.google.com/file/d/1LjfIm9gvxAliBvNjrBv2lwlCNfHLsl8M/view

INSPECT THE ORIGINAL RECORD

Source register

RESEARCH / SOURCE RECORD

S16 · Eagle River Community Water Plan, Appendix N: Recreational Water Uses

Table 1 p. 7; methods pp. 9-11; Table 2 p. 16; §6 p. 22. Published whitewater boatable-day results independently checked against the original appendix.

https://drive.google.com/file/d/10X4SNskDxUw2I8kSKbDLOkfTBSwFwDYz/view

RESEARCH / SOURCE RECORD

S17 · Eagle River Community Water Plan, Appendix K: Eagle Mine water quality

Methods pp. 4-6; narrative p. 9; Table 12 p. 21; Table 13 p. 22. Mean monthly zinc metrics for 2009-2016.

https://drive.google.com/file/d/1Wzb4M9aj3MpK7ceQQq1EQDhWvZM-xfKQ/view

RESEARCH / SOURCE RECORD

S18 · Eagle River Community Water Plan, main report

Revised October 2024, pp. 22-25 and 68-69. MOU scenario, seasonal effects and additional upper-basin assessment needs. Portal: lotic.quarto.pub/community_water_plan/.

https://drive.google.com/file/d/1X-ElYIsdy890a2ESMUH1IM_JHDxV4DX5/view

RESEARCH / SOURCE RECORD

S19 · CROA, 2024 Commercial Rafting Use Report

Revised August 13, 2025, PDF p. 8. Upper and Lower Eagle user days and expenditure estimates.

https://www.croa.org/wp-content/uploads/2025/08/2024-Commercial-Rafting-Use-Report-1988-2024.pdf

GOVERNMENT RECORD

S20 · Colorado Parks and Wildlife, July 16, 2026 fishing-closure announcement

Dated notice of full-day voluntary Eagle fishing closure beginning July 17, from Lake Creek to the Colorado confluence; low flows and high temperatures.

https://cpw.state.co.us/news/07162026/cpw-implements-additional-voluntary-fishing-closures-four-western-slope-rivers

INSPECT THE ORIGINAL RECORD

Source register

GOVERNMENT RECORD

S21 · Proclamation 10476, Camp Hale-Continental Divide National Monument

October 12, 2022; 87 FR 63381-63392. Ute connections, military landscape and monument protections. Assess actual facility overlap.

https://www.federalregister.gov/documents/full_text/html/2022/10/19/2022-22810.html

RESEARCH / SOURCE RECORD

S22 · Colorado River District, Shoshone water-rights FAQ

Senior rights and river administration context. Supply analysis must use governing decrees and the operating agreements actually applicable to Whitney.

https://www.coloradoriverdistrict.org/faq/

GOVERNMENT RECORD

S23 · Eagle County, broader land-use-code adoption schedule

County-linked schedule: November 3, 2026 broader code and map adoption hearing. This is separate from October 27 1041 consideration.

https://drive.google.com/file/d/147z-yATBLAPkjABXlZ3_ms7Dd5AXazxt/view

GOVERNMENT RECORD

S26 · CNHP, Fen Mapping inventory

Complete September 18 export: 600 features across the query area covering the model. Potential Fen IDs 3033, 3045, 5490 and 5491 intersect one or more modeled alternatives; 3045 and 5491 intersect all four. See the map methods and per-feature overlap register. This is the archived older service. A September 23 query of a separate downstream envelope returned 18 older-service features and six Fens 2025 features with different geometries. Source currency and polygon correspondence require reconciliation; this is not a disappearance count.

https://cnhp.colostate.edu/arcgis/rest/services/Wetland_Inv/Fen_Mapping/MapServer/0

GOVERNMENT RECORD

S27 · Chadde et al., Peatlands on National Forests of the Northern Rocky Mountains

USDA Forest Service RMRS-GTR-11, 1998. Printed p. 16 / PDF p. 20: flooded sedge fen converted to aquatic vegetation; printed p. 32 / PDF p. 36: hydrology, water-level regulation and off-site disturbance. Original pages attached.

https://www.fs.usda.gov/rm/pubs/rmrs_gtr011.pdf

INSPECT THE ORIGINAL RECORD

Source register

GOVERNMENT RECORD

S28 · 40 C.F.R. §230.41, wetlands effects

§230.41(b) recognizes permanent flooding as a mechanism damaging or destroying wetland habitat and productivity. General technical support for the modeled impact mechanism.

https://www.ecfr.gov/current/title-40/chapter-I/subchapter-H/part-230/subpart-E/section-230.41

UTILITY STATEMENT

S29 · Colorado Springs Utilities, draft full ERMOU development conveyance map

Original utility map reproduced by Aspen Journalism, July 17, 2019. Purple: ERMOU conveyance infrastructure concepts; black: existing conveyance. Reproduced in the map section with its draft label and legend.

https://i0.wp.com/aspenjournalism.org/wp-content/uploads/2019/07/ERMOU-Full-Build-Out-HomestakeValley-Map.jpg

GOVERNMENT RECORD

S30 · CNHP, Colorado Wetlands inventory and complete overlap register

Complete September 18 export: 2,979 features, including Colorado Heritage Program and National Wetlands Inventory sources. Source classes retained; ponds/rivers/lakes separated from mapped wetlands. The complete per-feature overlap register is linked in the web map section.

https://cnhp.colostate.edu/arcgis/rest/services/Wetland_Inv/Wetlands/MapServer/0

SAVE HOMESTAKE CALCULATION

S31 · Save Homestake, complete per-feature flood-zone overlap register

CSV lists every positive-area inventory intersection by alternative, source, feature ID, source classification and modeled area. Companion methods preserve input hashes, dissolved totals and complete-export checks. Generated with the unchanged model, September 20, 2026.

https://savehomestake.com/assets/evidence/whitney-wetland-fen-overlap.csv

RESEARCH / SOURCE RECORD

S32 · National Research Council, Riparian Areas: Functions and Strategies for Management

2002, chapter 3, printed pp. 149-150. Reduced flows and diversions alter riparian water supply; reduced overall flows can lower water tables and stress vegetation. Supports the downstream harm mechanism.

https://www.nationalacademies.org/read/10327/chapter/5

INSPECT THE ORIGINAL RECORD

Source register

GOVERNMENT RECORD

S33 · CNHP / USFS, Inventory of Fens in White River National Forest

July 2025. Executive summary and printed p. 1: sustained saturation, groundwater supply and protection of contributing watersheds. Printed p. 36: disturbed hydrology, peat decomposition and carbon release.

https://cnhp.colostate.edu/download/documents/2025/Inventory_of_Fens_in_the_WRNF_FINAL.pdf

SAVE HOMESTAKE CALCULATION

S34 · Save Homestake, lower Homestake downstream wetland map and source record

Source polygons retain wetland/water classifications and potential-fen status. The map follows the lower valley through Blodgett toward the canyon near Red Cliff. It maps habitat and the reach for impact assessment; individual hydrologic losses are evaluated through seasonal operations and groundwater analysis.

https://savehomestake.com/assets/evidence/downstream-map-methods.json

RESEARCH / SOURCE RECORD

HWF:V3-17 · Biological Survey of Eagle County, Colorado

Printed p. 159, PDF p. 162; Holy Cross City PCA; cottongrass account; research inspected September 23, 2026. Full historical agency/university report inspected

https://cnhp.colostate.edu/wp-content/uploads/download/documents/2000/Eagle_County_Survey.pdf

RESEARCH / SOURCE RECORD

HWF:V3-24 · Status and Conservation of Boreal Toad 2006-2007

Printed pp. 36 and 76; site monitoring tables; research inspected September 23, 2026. Historical agency report inspected

https://spl.cde.state.co.us/artemis/nrserials/nr623016internet/nr6230162006internet.pdf

PEER-REVIEWED

HWF:S31 · Downstream effects of stream flow diversion on channel characteristics and riparian vegetation in the Colorado Rocky Mountains

Abstract; Methods; Table IV; pp. 586-598; research inspected September 23, 2026. Full primary-study PDF inspected

https://research.fs.usda.gov/download/treesearch/47750.pdf

INSPECT THE ORIGINAL RECORD

Source register

PEER-REVIEWED

HWF:V3-07 · Effectiveness of Ditch Blockage for Restoring Hydrologic and Soil Processes in Mountain Peatlands

Abstract; Table 1; Results; research inspected September 23, 2026. Full author manuscript inspected

https://sites.warnercnr.colostate.edu/wp-content/uploads/sites/15/2017/02/SchimCooperChimRestEcol2013.pdf

PEER-REVIEWED

HWF:S12 · Beaver dams and overbank floods influence groundwater-surface water interactions of a Rocky Mountain riparian area

Abstract and citation metadata; research inspected September 23, 2026. Agency-hosted abstract inspected

https://www.usgs.gov/publications/beaver-dams-and-overbank-floods-influence-groundwater-surface-water-interactions-a

PEER-REVIEWED

HWF:V3-01 · A high-altitude thermal infrared method for estimating moose abundance and demography in Rocky Mountain National Park, USA

Methods habitat-suitability model; Table 1; research inspected September 23, 2026. Full publisher text inspected through web retrieval

https://nsojournals.onlinelibrary.wiley.com/doi/full/10.1002/wlb3.01368

PEER-REVIEWED

HWF:V3-21 · Reduced Streamflow From Water Diversion Alters Stream Ecology and Fish Behavior

Methods and Results; research inspected September 23, 2026. Full publisher text inspected

https://onlinelibrary.wiley.com/doi/full/10.1002/rra.4386

RESEARCH / SOURCE RECORD

HWF:V3-42 · How critical are the missing records? Latest Homestake flow gap assessment

Main conclusion; Exact pooled arithmetic; Limitations; research inspected September 23, 2026. Latest recovered findings read; original calculation package remains preserved

https://savehomestake.com/assets/evidence/ecology-v0.3/Homestake-Hydrology-Findings-2026-09-23.md

INSPECT THE ORIGINAL RECORD

Source register

RESEARCH / SOURCE RECORD
HWF:S28 · Rocky Mountain Subalpine-Montane Fen ecological system

Diagnostics; hydrology; vegetation; associations; research inspected September 23, 2026. CNHP system page inspected

https://cnhp.colostate.edu/projects/ecological-systems-of-colorado/details/?elementID=365208

RESEARCH / SOURCE RECORD
HWF:S03 · Inventory of Fens in White River National Forest

Section 4.2; Tables 10-12; Appendix A; research inspected September 23, 2026. Full PDF inspected

https://cnhp.colostate.edu/download/documents/2025/Inventory_of_Fens_in_the_WRNF_FINAL.pdf

RESEARCH / SOURCE RECORD
HWF:V3-02 · Eagle County Chapter VI

6.03.10; 6.04.01(15)-(20); Appendix A pp. iv-vi; research inspected September 23, 2026. Current published official PDF inspected

https://cms5.revize.com/revize/eagle/Document%20Center/Departments%20%26%20Services/Community%20Development/Planning/Land%20Use%20Regulations/Chapter%20VI%20-%20Areas%20and%20Activities%20of%20State%20Interest%20052012.pdf

PEER-REVIEWED
HWF:V3-06 · Rapid riparian ecosystem decline in Rocky Mountain National Park

Abstract; Methods; figures; research inspected September 23, 2026. Full primary-study text inspected

https://pmc.ncbi.nlm.nih.gov/articles/PMC12451483/

RESEARCH / SOURCE RECORD
HWF:V3-04 · CPW Fish Distribution Schedule 2023

PDF p. 34, water 20622 and 67365; species-code legend; research inspected September 23, 2026. Full schedule PDF inspected

https://spl.cde.state.co.us/artemis/nrserials/nr623010internet/nr6230102023internet.pdf

INSPECT THE ORIGINAL RECORD

Source register

RESEARCH / SOURCE RECORD
HWF:V3-05 · CPW Fish Distribution Schedule 2024

PDF p. 35, water 20622 and 67365; species-code legend; research inspected September 23, 2026. Full schedule PDF inspected

https://spl.cde.state.co.us/artemis/nrserials/nr623010internet/nr6230102024internet.pdf

RESEARCH / SOURCE RECORD
HWF:S11 · Colorado River cutthroat trout species profile

About; Cutthroat Trout Taxonomy Research; research inspected September 23, 2026. Agency page inspected

https://cpw.state.co.us/species/colorado-river-cutthroat-trout

PEER-REVIEWED
HWF:S34 · Informed breeding dispersal following stochastic changes to patch quality

Abstract; DOI metadata; research inspected September 23, 2026. Agency-hosted abstract inspected

https://www.usgs.gov/publications/informed-breeding-dispersal-following-stochastic-changes-patch-quality-a-pond-breeding

PEER-REVIEWED
HWF:V3-18 · Beaver recolonization explains aquatic insect emergence patterns

Abstract; DOI 10.1086/734565; research inspected September 23, 2026. Publisher abstract inspected

https://www.journals.uchicago.edu/doi/10.1086/734565

RESEARCH / SOURCE RECORD
HWF:V3-34 · CNHP current tracking list, public read-only data response

2,214 returned rows; exact-name rank/status fields; accessed 2026-09-23; research inspected September 23, 2026. Public read-only table data inspected

https://cnhp.colostate.edu/ourdata/trackinglist/

INSPECT THE ORIGINAL RECORD

Source register

SAVE HOMESTAKE CALCULATION

HWA:S-GP-ANNUAL · Matched Gold Park annual inputs, WY2007-2024

18 annual rows; tunnel_export_13704614_af and flow_af_observed_days; verified September 23, 2026. Archived at content/water/2026-09-23/goldpark-matched-annual.csv.

https://savehomestake.com/assets/evidence/water/2026-09-23/goldpark-matched-annual.csv

SAVE HOMESTAKE CALCULATION

HWA:S-REPORT · Homestake flow and basin findings, latest September 23 Gold Park revision

Plain-language Gold Park arithmetic; endpoint storage and recorded evaporation partial balance; separate Red Cliff comparison and five-intake collector record. Technical Companion and raw archive preserve methods, coverage and unresolved physical terms.

https://savehomestake.com/documents/Homestake-Flow-and-Basin-Findings-2026-09-23.pdf

SAVE HOMESTAKE CALCULATION

HWA:S-RAW · Homestake raw evidence and reproducible code

Compact September 23 reproducible water bundle; Gold Park matched annual inputs, collector record and report-generation code. The complete original raw archive is retained with the project research. Use the manifest/checksums to distinguish later revisions with the same date.

https://savehomestake.com/assets/evidence/water/water-bundle.zip

RESEARCH / SOURCE RECORD

HWF:REGISTRY · Homestake wildlife and flora occurrence record, v0.3

September 23 v0.3 evidence package and SQLite/CSV records. 1,400 BioBlitz observations; 229 terminal concepts, including 190 species-rank concepts; 618 Research Grade, 778 Needs ID and four Casual. Additional screened GBIF/locality records: 233, including 129 eBird-derived and 103 specimen records.

https://savehomestake.com/assets/evidence/ecology-v0.3/Homestake-Public-Ecology-Package-v0.3.zip

RESEARCH / SOURCE RECORD

HWF:FEN-2025 · CNHP fen service comparison, September 23, 2026

Identical downstream query envelope returned 18 Potential Fen features from the older service and six Fens 2025 features; geometries differ. Preserve the dated older-service overlay pending source/version and polygon correspondence resolution.

https://savehomestake.com/assets/evidence/ecology-gis-reconciliation-2026-09-23.json

INSPECT THE ORIGINAL RECORD

Source register

AGENCY DATA

HWA:S-USGS-GP · USGS 09064000 Homestake Creek at Gold Park

Daily mean discharge 00060/00003, October 1, 2006 through September 30, 2024; 6,575 approved daily values, including 2,876 estimated-day qualifiers; verified September 23, 2026. Archived at content/water/2026-09-23/raw/usgs-gold-daily.json.

https://waterdata.usgs.gov/monitoring-location/USGS-09064000/

AGENCY DATA

HWA:S-TUNNEL · DWR Homestake Tunnel monthly diversion records

Water class 13704614; Approved 216 monthly records for WY2007-2024; verified September 23, 2026. Archived at content/water/2026-09-23/raw/tunnel-monthly.json.

https://dwr.state.co.us/Rest/GET/api/v2/structures/divrec/divrecmonth?wdid=3704614&format=json

AGENCY DATA

HWA:S-RESERVOIR · DWR Homestake Reservoir storage and evaporation accounts

Evaporation classes 36604, 36796, 178123; reservoir-stage-volume.json endpoints 2006-09-30 and 2024-09-30; verified September 23, 2026. Archived at content/water/2026-09-23/raw/reservoir-monthly.json.

https://dwr.state.co.us/Rest/GET/api/v2/structures/divrec/divrecmonth?wdid=3704516&format=json

AGENCY DATA

HWA:S-REDCLIFF · DWR-published USGS 09064500 Red Cliff water-year flow

WY2007-2011, totalQAf; record dataSource=USGS; preserved September 20 vintage, daily-USGS cross-check September 23; verified September 23, 2026. Archived at content/water/2026-09-23/raw/redcliff-water-years.json.

https://dwr.state.co.us/Rest/GET/api/v2/surfacewater/surfacewatertswateryear?usgsSiteId=09064500&format=json

AGENCY DATA

HWA:S-COLLECTORS · DWR five Homestake collector monthly records

WDIDs 3701253, 3701254, 3701255, 3701256, 3704644; total-capture water class 10000000 + WDID; 660 Approved monthly records in WY2014-2024; verified September 23, 2026. Archived at content/water/2026-09-23/collector-summary.csv.

https://dwr.state.co.us/Tools/Structures

INSPECT THE ORIGINAL RECORD

Source register

SAVE HOMESTAKE CALCULATION

HWA:S-TOPOLOGY · Gold Park collector and reservoir topology check

Six point/geometry containment checks; original URLs and hashes retained; verified September 23, 2026. Archived at content/water/2026-09-23/goldpark-topology-verification.json.

https://savehomestake.com/assets/evidence/water/2026-09-23/goldpark-topology-verification.json

SAVE HOMESTAKE ANALYSIS

HWA:S-WHITNEY-GAP · Whitney-specific collection and dependable-yield records search

Latest raw package analysis_update/gap_search_whitney/followup_findings.md, source index and request addendum; verified September 23, 2026. Archived at content/water/2026-09-23/whitney-records-gap.md.

https://savehomestake.com/assets/evidence/water/2026-09-23/whitney-records-gap.md

GOVERNMENT RECORD

HWF:S22 · U.S. Fish and Wildlife Service, final Canada lynx critical-habitat rule

43732/PDF1 effective date; 43771/PDF40 Unit6 geography; 43772/PDF41 Unit6 map; 43768-43769/PDF37-38 boundary rule. Official source checked September 23, 2026.

https://www.govinfo.gov/content/pkg/FR-2026-07-16/pdf/2026-14299.pdf

GOVERNMENT RECORD

HWF:S39 · Colorado Parks and Wildlife, lynx species profile

Protection Status; Threatened and Endangered. Official source checked September 23, 2026.

https://cpw.state.co.us/species/lynx

GOVERNMENT RECORD

FED-ECFR-17.11-LYNX · 50 CFR 17.11(h), federal Canada lynx listing

17.11(h), Lynx, Canada [Contiguous U.S. DPS] row; eCFR displayed current to September 21, 2026. Official source checked September 23, 2026.

https://www.ecfr.gov/current/title-50/chapter-I/subchapter-B/part-17/subpart-B/section-17.11

INSPECT THE ORIGINAL RECORD

Source register

UTILITY STATEMENT
MUN-S01 · Aurora Water: Innovation & Sustainability

By the numbers; Future Goals. Full web text inspected. Checked September 23, 2026.

https://www.auroragov.org/residents/water/innovation

UTILITY STATEMENT
MUN-S02 · Here's how Aurora's leading water conservation

Outdoor irrigation paragraph; 2022 ordinance paragraph; Prairie Waters paragraph. Full web text inspected. Checked September 23, 2026.

https://www.auroragov.org/cms/One.aspx?pageId=21177882&portalId=16242704

UTILITY STATEMENT
MUN-S04 · 2025 Official Statement, City of Colorado Springs Utilities revenue bonds

Printed pp6,47,52-53; PDF pp12,53,58-59. Full PDF text inspected. Checked September 23, 2026.

https://www.csu.org/hubfs/Document-Library/Official-Statement.pdf?hsLang=es

UTILITY STATEMENT
MUN-S05 · Utilities Board Working Committee packet

PDF pp36,41-43 of 83; slides12,17-19. Full PDF text inspected. Checked September 23, 2026.

https://www.csu.org/hubfs/Utilities-Board/Agendas/05-19-2025%20Working%20Committee%20Agenda%20-%20May%202025.pdf?hsLang=es

UTILITY STATEMENT
MUN-S06 · 2022 Water Efficiency Plan

pp13,18,20 and Table5 pp21-23. Full PDF text inspected. Checked September 23, 2026.

https://www.csu.org/hubfs/39606065/Document%20Library/2022WaterEfficiencyPlan.pdf?hsLang=en

ORIGINAL LEGAL EXHIBITS

Read the controlling language in context

The following pages reproduce the applicant's alternative-dam map, pertinent current-code and September 15 draft provisions, the County staff transition recommendation, and Forest Service ecological evidence. They retain the source documents' page labels. PDF bookmarks connect the analysis and original exhibits.

Project map: the 2019 application's Figure 1 (technical p. 3 / PDF p. 11) locates the four alternative axes, Homestake Creek and road. It supplies geographic context for the campaign model and downstream construction callouts. The utility conveyance map appears earlier in this dossier.

Current Chapter VI

The attached current-code excerpts include the decision rule, approval criteria and Appendix A considerations. Appendix A assists application of the criteria; its own introduction says these considerations are not additional mandatory criteria.

September 15 replacement draft

The attached draft excerpts include the decision rule, the general Article 4 standards and the additional water-project standards in §434. The proposed provisions apply only if adopted and effective in the relevant form. Definitions and application requirements are linked in the full source S02 and discussed in the analysis.

Transition recommendation

Staff report p. 8 recommends that the replacement take effect with the readopted land-use code, while current Chapter VI remains fully effective until then. This is the staff recommendation, not an enacted calendar effective date.

Ecological evidence

The attached Forest Service pages document vegetation change following sustained fen flooding and explain hydrologic and off-site threats to peatland function. They support the mechanism evaluated in the modeled Whitney impact case.

> Use the evidence together: the original legal text supplies the test; the observations, models and technical sources supply the facts; the proposed findings explain why the supported facts require denial.

Evidence: S09 · S01 · S02 · S04 · S27

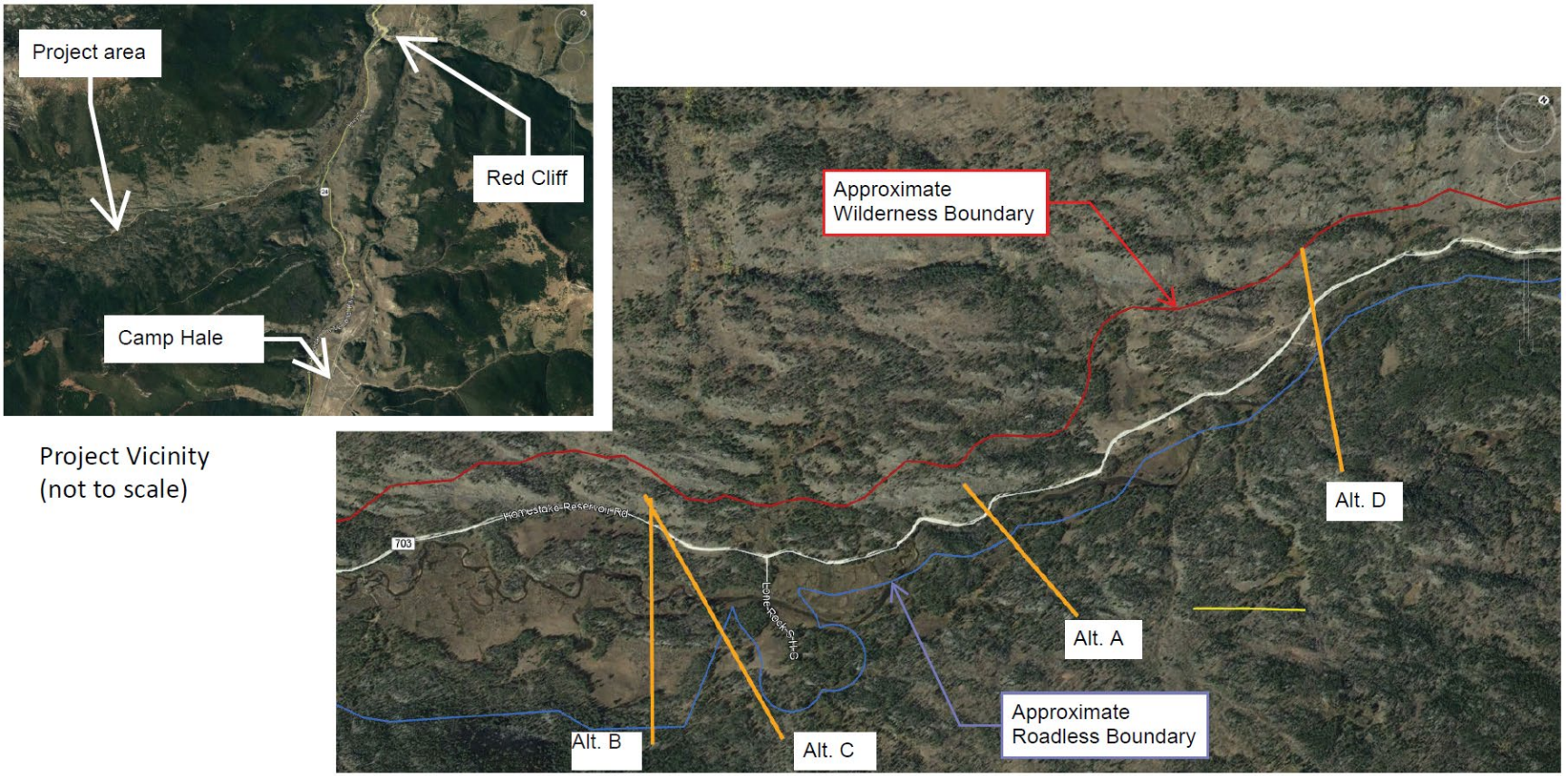


Figure 1. Project area. North (downstream) is towards the upper right and the yellow scale bar is 1000 feet long. Orange lines represent approximate alternative dam alignments.

(9) Additional Information may be necessary. The Director may request that the applicant supply additional information related to the Project if the Permit Authority will not be able to make a determination on one of the Permit Application Approval Criteria in Section 6.04 without the additional information.

6.03.07 Additional Submittal Requirements Applicable to Municipal and Industrial Water Projects.

(1) Description of efficient water use, recycling and reuse technology the Project intends to use.

(2) Map and description of other municipal and industrial water projects in the vicinity of the Project, including their capacity and existing service levels, location of intake and discharge points, service fees and rates, debt structure and service plan boundaries and reasons for and against hooking on to those facilities.

(3) Description of demands that this Project expects to meet and basis for projections of that demand.

6.03.08 Additional Submittal Requirements Applicable to Major New Domestic Water and Wastewater Treatment Systems and Major Extensions of Existing Domestic Water and Wastewater Treatment Systems.

(1) Description of existing domestic water and wastewater treatment facilities in the vicinity of the Project, including their capacity and existing service levels, location of intake and discharge points, service fees and rates, debt structure and service plan boundaries, and reasons for and against hooking on to those facilities.

(2) Description of how the Project will affect urban development, urban densities, and site layout and design of stormwater and sanitation systems.

(3) Description of other water and wastewater management agencies in the Project area and reasons for and against consolidation with those agencies.

(4) Description of how the Project may affect adjacent communities and users on wells.

6.03.09 Conduct of Permit Hearing.

(1) The Permit Authority shall conduct the hearing in a manner to afford procedural due process to the applicant and any person who opposes the issuance of the Permit.

(2) The Permit Authority shall hear relevant testimony and receive relevant evidence and may impose reasonable time limits on presenters and witnesses.

(3) Although the Colorado Rules of Civil Procedure do not apply to the hearing, all persons appearing at the hearing shall be afforded the right of cross-examination and a reasonable opportunity to offer evidence in rebuttal.

(4) Any person may, at his own expense, provide for the recording of the hearing and transcription thereof, provided, however, that a copy of the transcript shall be furnished free of charge to the Permit Authority and become part of the record.

6.03.10 Approval or Denial of the Permit Application by the Permit Authority.

(1) If information presented at the hearing leads the Permit Authority to find that additional information is necessary for it to determine whether the Permit Application Approval Criteria in Section 6.04 have been met, the Permit Authority may continue the hearing for not more than sixty (60) days unless a longer period is agreed to by the applicant, or it may deny the Permit.

(2) The Permit Authority may approve the application if it determines that the applicant has proven that the Project complies with all applicable provisions of these Regulations. If the Permit Authority determines that the applicant has failed to prove that the Project complies with any applicable provision of these Regulations,

the Permit Authority, at its sole discretion, may either approve the permit application with reasonable conditions necessary to ensure compliance with the Regulations, or deny the Permit.

(3) If the Permit Authority decides to approve the Permit with conditions, the Permit Authority shall make written findings that each condition is necessary to ensure that the Project will comply with the Permit Application Approval Criteria in sections 6.04.01, 6.04.02, and 6.04.03, and that each condition is necessitated by impacts caused by the Project.

(4) The hearing record shall include the following:

- **(a)** The application package.
- **(b)** Written statements or documents in support of or in opposition to the permit application.
- **(c)** Any recording and transcript of the hearing.
- **(d)** Written minutes of the Permit Authority hearing.
- **(e)** The resolution of the Permit Authority granting or denying the permit application.

(5) The burden of proof shall be on the applicant to show compliance with provisions of these regulations governing areas or activities of state interest involved.

6.03.11 Issuance of the Permit.

(1) The Permit shall be issued in writing by the Board.

(2) The Permit may be issued for an indefinite period or for a term of years, depending upon the nature of the Project.

(3) The Permit is valid only for the construction and operation of the Project described in the application package together with the conditions of approval, if any, imposed by the Permit Authority.

(4) A copy of the Permit shall be certified by the Permit Authority and presented to the County Clerk and Recorder for recording in the same manner as any document relating to real property.

6.03.12 Permit Amendment.

(1) Any change in the construction or operation of a Water and Sewer Project from that approved by the Permit Authority shall require a permit amendment, unless otherwise exempt.

(2) A permit amendment will be subject to the following requirements and procedures:

- **(a)** Permit Application Submittal Requirements.
  - **(i)** A copy of the current Permit and reasons for amendment
  - **(ii)** As-built drawings of the Project, if available.
  - **(iii)** Drawings and plans of proposed changes to the Project.
  - **(iv)** Additional or changed mitigation plans.
  - **(v)** Statement of need for amendment.
  - **(vi)** Site Plan.
  - **(vii)** Vicinity map.
  - **(viii)** Written report of how amendment satisfies the criteria in sections 6.04.01, 6.04.02 and 6.04.03.
- **(b)** Permit Amendment Procedure.
  - **(i)** The applicant shall meet with the Director to discuss the proposed permit amendment.
  - **(ii)** Application submittal requirements shall be reviewed by the Director.

6.04 APPROVAL CRITERIA AND FINANCIAL ASSURANCE

6.04.01 Permit Application Approval Criteria for Matters of State Interest.

A Permit to conduct a designated activity of state interest or to engage in development in a designated area of state interest shall be approved if the Project complies with the following general criteria and any additional applicable criteria in sections 6.04.02 or 6.04.03. If the Project does not comply with any one or more of these criteria, the Permit shall be denied or approved with conditions. In determining whether the Project complies with these criteria, or if conditions should be imposed, the Permit Authority may utilize the considerations in Appendix "A."

(1) Documentation that prior to site disturbance for the Project the applicant will have obtained all necessary property rights, permits and approvals. The Board may, at its discretion, defer making a final decision on the application until outstanding property rights, permits and approvals are obtained.

(2) The Project will not impair property rights held by others.

(3) The Project is consistent with relevant provisions of applicable land use and water quality plans.

(4) The applicant has the necessary expertise and financial capability to develop and operate the Project consistent with all requirements and conditions.

(5) The Project is technically and financially feasible.

(6) The Project is not subject to significant risk from natural hazards.

(7) The Project will not have a significant adverse effect on land use patterns.

(8) The Project will not have a significant adverse effect on the capability of local governments affected by the Project to provide services, or exceed the capacity of service delivery systems.

(9) The Project will not create an undue financial burden on existing or future residents of the County.

(10) The Project will not significantly degrade any current or foreseeable future sector of the local economy.

(11) The Project will not have a significant adverse effect on the quality or quantity of recreational opportunities and experience.

(12) The planning, design and operation of the Project shall reflect principals of resource conservation, energy efficiency and recycling or reuse.

(13) The Project will not significantly degrade air quality.

(14) The Project will not significantly degrade existing visual quality.

(15) The Project will not significantly degrade surface water quality.

(16) The Project will not significantly degrade groundwater quality.

(17) The Project will not significantly degrade wetlands, and riparian areas.

(18) The Project will not significantly degrade terrestrial or aquatic animal life or its habitats.

(19) The Project will not significantly deteriorate terrestrial plant life or plant habitat.

(20) The Project will not significantly deteriorate soils and geologic conditions.

(21) The Project will not cause a nuisance.

(22) The Project will not significantly degrade areas of paleontological, historic, or archaeological importance.

(23) The Project will not result in unreasonable risk of releases of hazardous materials.

(24) The benefits accruing to the County and its citizens from the Project outweigh the losses of any natural, agricultural, recreational, grazing, commercial or industrial resources within the County, or the losses of opportunities to develop such resources.

6.04.02 Additional Criteria Applicable to Municipal and Industrial Water Projects.

In addition to the general criteria set forth in section 6.04.01, the following additional criteria apply to municipal and industrial water projects:

(1) The Project shall emphasize the most efficient use of water, including the recycling, reuse and conservation of water.

(2) The Project will not result in excess capacity in existing water or wastewater treatment services or create duplicate services.

(3) The Project shall be necessary to meet community development and population demands in the areas to be served by the Project.

(4) Urban development, population densities, and site layout and design of storm water and sanitation systems shall be accomplished in a manner that will prevent the pollution of aquifer recharge areas.

6.04.03 Additional Criteria Applicable to Major New Domestic Water and Wastewater Treatment Systems and Major Extensions of Existing Domestic Water and Wastewater Treatment Systems.

In addition to the general criteria set forth in section 6.04.01, the following additional criteria apply to any development of major new domestic water and wastewater treatment systems or major extensions of existing domestic water and wastewater treatment systems:

(1) The Project shall be reasonably necessary to meet projected community development and population demands in the areas to be served by the Project, or to comply with regulatory or technological requirements.

(2) To the extent feasible, wastewater and water treatment facilities shall be consolidated with existing facilities within the area.

(3) New domestic water and sewage treatment systems shall be constructed in areas which will result in the proper utilization of existing treatment plants and the orderly development of domestic water and sewage treatment systems of adjacent communities.

(4) The Project shall be permitted in those areas in which the anticipated growth and development that may occur as a result of such extension can be accommodated within the financial and environmental capacity of the area to sustain such growth and development.

6.04.04 Financial Guarantee Required.

Before any Permit is issued, the Permit Authority may, at its discretion, require the applicant to file a guarantee of financial security deemed adequate by the Permit Authority and payable to the County. The purpose of the financial guarantee is to assure the following:

(1) Faithful performance of the requirements of the Permit and applicable regulations.

(2) That the Project or activity is completed and, if applicable, that the development area is properly reclaimed.

(3) That the applicant performs all mitigation requirements and Permit conditions in connection with the construction, operation and termination of the Project.

APPENDIX "A"

Following are considerations to help the applicant understand the types of things that the Permit Authority may consider on balance in determining whether a Project complies with the Permit Application Approval Criteria in sections 6.04.01, 6.04.02, and 6.04.03. These considerations are not criteria that the Project must satisfy; they serve solely as guidance. The considerations are in regular type and the actual criteria that the considerations relate to are in bold type.

6.04.01(5)

The Project is technically and financially feasible. The determination of technical and financial feasibility of the Project may include but is not limited to the following considerations:

(a) Amount of debt associated with the Project.

(b) Debt retirement schedule and sources of funding to retire the debt.

(c) Estimated construction costs and construction schedule.

(d) Estimated annual operation, maintenance and monitoring costs.

6.04.01(6)

The Project is not subject to significant risk from natural hazards. The determination of risk from natural hazards to the Project may include but is not limited to the following considerations.

(a) Faults and fissures.

(b) Unstable slopes including landslides, rock slides and avalanche areas.

(c) Expansive or evaporative soils and risk of subsidence.

(d) Wildfire hazard areas.

(e) Floodplains.

6.04.01(7)

The Project will not have a significant adverse effect on land use patterns. The determination of effects of the Project on land use patterns may include but is not limited to the following considerations:

(a) Whether the Project complies with and is consistent with applicable plans.

(b) Likelihood that the Project will/will not cause or contribute to urban sprawl or "leapfrog" development.

(c) Significant changes in the amount of impervious surfaces.

(d) Contiguity of development associated with the Project to existing growth centers.

(e) Changes to unique land forms.

(f) Changes in the amount of character of open space.

(g) Changes to traffic patterns, road capacity and congestion.

6.04.01(8)

The Project will not have a significant adverse effect on the capability of local governments affected by the Project to provide services, or exceed the capacity of service delivery systems. The determination of the effects of the Project on local government services may include but is not limited to the following considerations:

(a) Existing and potential financial capability of local governments to accommodate development related to the Project.

(b) Current and projected capacity of roads, schools, infrastructure, housing, and other services necessary to accommodate development, and the impact of the Project upon the current and projected capacity.

(c) Changes caused by the Project in the cost of providing education, transportation networks, water treatment and wastewater treatment, emergency services, or other governmental services or facilities.

(d) Changes in short or long term housing availability, location, cost or condition.

(e) Need for temporary roads to access the construction of the Project.

(f) Change in demand for public transportation.

(g) Reduction in the amount of water available for future water supply in the County.

6.04.01(9)

The Project will not create an undue financial burden on existing or future residents of the County. The determination of the financial effects of the Project may include but is not limited to the following considerations:

(a) Changes in assessed valuation.

(b) Tax revenues and fees to local governments that will be generated by the Project.

(c) Changes in tax revenues caused by agricultural lands being removed from production.

(d) Changes in costs to water users to exercise their water rights.

(e) Changes in costs of water treatment or wastewater treatment.

(f) Effects on wastewater discharge permits.

(g) Changes in total property tax burden.

6.04.01(10)

The Project will not significantly degrade any current or foreseeable future sector of the local economy. The determination of the effects of the Project on the economy may include but is not limited to the following considerations:

(a) Changes to projected revenues generated from each economic sector.

(b) Changes in the value or productivity of any lands.

(c) Changes in opportunities for economic growth and diversification.

6.04.01(11)

The Project will not have a significant adverse effect on the quality or quantity of recreational opportunities and experience. The determination of effects of the Project on recreational opportunities and experience may include but is not limited to the following considerations:

(a) Changes to existing and projected visitor days.

(b) Changes to duration of kayaking and rafting seasons.

(c) Changes in quality and quantity of fisheries.

(d) Changes in instream flows or reservoir levels.

(e) Changes in access to recreational resources.

(f) Changes to quality and quantity of hiking trails.

(g) Changes to the wilderness experience or other opportunity for solitude in the natural environment.

(h) Changes to hunting experiences.

6.04.01(13)

The Project will not significantly degrade air quality. The determination of effects of the Project on air quality may include but is not limited to the following considerations.

(a) Changes to seasonal ambient air quality.

(b) Changes in visibility and microclimates.

(c) Applicable air quality standards.

6.04.01(14)

The Project will not significantly degrade existing visual quality. The determination of visual effects of the Project may include but is not limited to the following considerations:

(a) Visual changes to ground cover and vegetation, waterfalls and streams, or other natural features.

(b) Interference with viewsheds and scenic vistas.

(c) Changes in appearances of forest canopies.

(d) Changes in landscape character types of unique land formations.

(e) Compatibility of building and structure design and materials with surrounding land uses.

6.04.01(15)

The Project will not significantly degrade surface water quality. The determination of effects of the Project on surface water quality may include but is not limited to the following considerations:

(a) Changes to existing water quality, including patterns of water circulation, temperature, conditions of the substrate, extent and persistence of suspended particulates and clarity, odor, color or taste of water.

(b) Applicable narrative and numeric water quality standards.

(c) Changes in point and nonpoint source pollution loads.

(d) Increase in erosion.

(e) Changes in sediment loading to waterbodies.

(f) Changes in stream channel or shoreline stability.

(g) Changes in stormwater runoff flows.

(h) Changes in trophic status or in eutrophication rates in lakes and reservoirs.

(i) Changes in the capacity or functioning of streams, lakes or reservoirs.

(j) Changes in flushing flows.

(k) Changes in dilution rates of mine waste, agricultural runoff and other unregulated sources of pollutants.

6.04.01(16)

The Project will not significantly degrade groundwater quality. The determination of effects of the Project on groundwater quality may include but is not limited to the following considerations:

(a) Changes in aquifer recharge rates, groundwater levels and aquifer capacity including seepage losses through aquifer boundaries and at aquifer-stream interfaces.

(b) Changes in capacity and function of wells within the impact area.

(c) Changes in quality of well water within the impact area.

6.04.01(17)

The Project will not significantly degrade wetlands and riparian areas. The determination of effects of the Project on wetlands and riparian areas may include but is not limited to the following considerations:

(a) Changes in the structure and function of wetlands and riparian areas.

(b) Changes to the filtering and pollutant uptake capacities of wetlands and riparian areas.

(c) Changes to aerial extent of wetlands and riparian areas.

(d) Changes in species' characteristics and diversity.

(e) Transition from wetland to upland species.

(f) Changes in function and aerial extent of floodplains.

6.04.01(18)

The Project will not significantly degrade terrestrial or aquatic animal life or its habitats. The determination of effects of the Project on terrestrial or aquatic life may include but is not limited to the following considerations:

(a) Changes that result in loss of oxygen for aquatic life.

(b) Changes in flushing flows.

(c) Changes in species composition or density.

(d) Changes in number of threatened or endangered species.

(e) Changes to habitat and critical habitat, including calving grounds, mating grounds, nesting grounds, summer or winter range, migration routes, or any other habitat features necessary for the protection and propagation of any terrestrial animals.

(f) Changes to habitat and critical habitat including stream bed and banks, spawning grounds, riffle and side pool areas, flushing flows, nutrient accumulation and cycling, water temperature, depth and circulation, stratification, and any other conditions necessary for the protection and propagation of aquatic species.

(g) Changes to the aquatic and terrestrial food webs.

6.04.01(19)

The Project will not significantly deteriorate terrestrial plant life or plant habitat. The determination of effects of the Project on terrestrial plant life or habitat may include but is not limited to the following considerations:

(a) Changes to habitat of threatened or endangered plant species.

(b) Changes to the structure and function of vegetation, including species composition, diversity, biomass, and productivity.

(c) Changes in advancement or succession of desirable and less desirable species, including noxious weeds.

(d) Changes in threatened or endangered species.

6.04.01(20)

The Project will not significantly deteriorate soils and geologic conditions. The determination of effects of the Project on soils and geologic conditions may include but is not limited to the following considerations:

(a) Changes to the topography, natural drainage patterns, soil morphology and productivity, soil erosion potential, and floodplains.

(b) Changes to stream sedimentation, geomorphology, and channel stability.

(c) Changes to lake and reservoir bank stability and sedimentation, and safety of existing reservoirs.

(d) Changes to avalanche areas, mudflows and debris fans, and other unstable and potentially unstable slopes.

(e) Exacerbation of seismic concerns and subsidence.

6.04.01(21)

The Project will not cause a nuisance. The determination of nuisance effects of the Project may include but is not limited to the following considerations:

(a) Increase in odors.

(b) Increase in dust.

(c) Increase in fumes.

(d) Increase in glare.

(e) Increase in heat.

(f) Increase in noise.

(g) Increase in vibration.

(h) Increase in artificial light.

(i) Increase in traffic impacts.

6.04.01(23)

The Project will not result in unreasonable risk of releases of hazardous materials. The determination of the risk of release of hazardous materials caused by Project may include but is not limited to the following considerations:

(a) Plans for compliance with federal and state handling, storage, disposal, and transportation requirements.

(b) Use of waste minimization techniques.

(c) Adequacy of spill prevention and response plans.

6.04.02 (1)

The Project shall emphasize the most efficient use of water, including the recycling, reuse and conservation of water. The determination of whether the Project emphasizes the most efficient use of water may include but is not limited to the following considerations:

(a) Whether the Project uses readily available conservation techniques.

(b) Whether the Project recycles water to the greatest extent allowed by law.

6.04.02 (2)

The Project will not result in excess capacity in existing water or wastewater treatment services or create duplicate services. The determination of whether the Project will result in excess capacity or create duplicate services may include but is not limited to the following considerations:

(a) Whether the Project creates overlapping or competing service areas.

(b) Whether the Project differs significantly from the provider's facility plan.

(c) Whether the Project impacts other water and wastewater permits.

6.04.02 (3)

The Project shall be necessary to meet community development and population demands in the areas to be served by the Project. The determination of whether the Project meets community development and population demands may include but is not limited to the following considerations:

(a) Relationship to reasonable growth projections and local land use plans.

(b) Relationship to other water and wastewater provider's service area.

6.04.02 (4)

Urban development, population densities, and site layout and design of storm water and sanitation systems shall be accomplished in a manner that will prevent the pollution of aquifer recharge areas. The determination of potential for pollution of the aquifer recharge areas by the Project may include but is not limited to the following considerations:

(a) Proximity of urban development and population densities to aquifer recharge areas.

(b) Proximity of stormwater and sanitation systems to aquifer recharge areas.

(c) Changes in water quality in the aquifer recharge areas.

6.04.03 (1)

The Project shall be reasonably necessary to meet projected community development and population demands in the areas to be served by the Project, or to comply with regulatory or technological requirements. The determination of whether the Project is reasonably necessary may include but is not limited to the following considerations:

(a) Relationship to reasonable growth projections and local land use plans.

(b) Relationship to other water and wastewater provider's service area.

(c) Whether the Project is not in compliance with regulatory or technological requirements or will not be in compliance in the near future.

6.04.03 (2)

To the extent feasible, wastewater and water treatment facilities shall be consolidated with existing facilities within the area. The determination of whether consolidation is **feasible** shall include but is not limited to the following considerations:

(a) Whether there is an opportunity for consolidation.

(b) The environmental, financial and social feasibility of consolidation.

6.04.03 (3)

New domestic water and sewage treatment systems shall be constructed in areas which will result in the proper utilization of existing treatment plan and the orderly development of domestic water and sewage treatment systems of adjacent communities. The determination shall include but is not limited to the following considerations:

(a) Relationship to reasonable growth projections and local land use plans.

(b) Proximity to other water and wastewater provider's service area.

6.04.03 (4)

The Project shall be permitted in those areas in which the anticipated growth and development that may occur as a result of such extension can be accommodated within the financial and environmental capacity of the area to sustain such growth and development. The determination shall include but is not limited to the following considerations:

(a) Relationship of the Project to approved land use plans for the area.

(b) The environmental, financial and social impacts related to such development.

submittal of an application of a public utility or a power authority providing electric or natural gas service that relates to the location, construction, or improvement of a major facility of a public utility.

SEC. 208 BOARD HEARING SCHEDULED AND NOTICE PUBLISHED

A. No later than 30 days after Application is deemed complete, the Director shall set the date, location, and time for a future Board hearing on the Application.

B. The Director shall publish a notice of the hearing once in the County legal newspaper, not less than 30 days or more than 60 days before the date set for the hearing. The notice shall include:

1. The time and place of the hearing.

2. The place at which materials relating to the matter to be designated and any guidelines and regulations for the administration thereof may be examined.

3. The telephone number or email address where inquiries may be submitted.

4. A short description of the proposed Project, including the location, legal description, and area (size) of the land.

5. A short description of the proposed action requested.

SEC. 209 REFERRAL OF APPLICATION.

At any time during the Permit process, the Director may refer the application to any other local, state, or federal agencies that have expertise pertaining to or jurisdiction over the Project along with a deadline for offering comments.

SEC. 210 STAFF REPORT

A. The Director shall prepare a staff report that summarizes the Application and comments from consultants, legal counsel, referral agencies, if any, and the public.

B. The staff report shall identify any approval standard that has not been satisfied and may recommend conditions to address any standard that has not been satisfied.

C. The Director shall provide a copy of the staff report to the Board, the Applicant, and to the public upon request.

SEC. 211 REVIEW AND DECISION BY THE BOARD

Following a public hearing, the Board shall approve, approve with conditions, or deny the

Application. The burden of proof is on the Applicant to demonstrate that the Project complies with these Regulations, and the Board's decision shall be based on all of the information on the Hearing Record.

A. **Approval of Application.** The Board may approve the Application if the Board finds that the Applicant has demonstrated that the Project will comply with each Permit Approval Standard in Article 4.

B. **Denial of Application.** The Board shall deny the Application if the Board finds that the Project does not comply with any one of the Permit Approval Standards in Article 4.

C. **Conditional Approval.** In lieu of denial, the Board may approve the Application with conditions if the Board finds that such conditions are necessary to find that the Application complies with each Permit Approval Standard in Article 4.

D. **Hearing Record.** The Hearing Record shall include the following:

1. The Application package.

2. Written statements or documents commenting on the Application and any such materials submitted during the hearing.

3. Written statement of reasons for Board decision and its findings and conclusions, pursuant to C.R.S. § 24-65.1-501(5)(a).

4. Any recording and transcript of the hearing.

5. The resolution of the Board granting or denying the Application.

D. **Timeline for Applications of Public Utility or Power Authority.** Pursuant to C.R.S. 29-20-108, the Board shall issue a decision on an application of a public utility or a power authority providing electric or natural gas service that relates to the location, construction, or improvement of a major facility of a public utility within 90 days of the Director's determination of a Complete Application, or else t

ARTICLE 4 PERMIT APPROVAL STANDARDS

SEC. 401 GENERAL CONSIDERATIONS

The burden of proof is on the Applicant to demonstrate that the Project complies with these standards. In making its determination as to whether the Applicant has demonstrated that the Project complies with these standards, the Board shall consider all evidence on the Hearing Record, including the application materials, which include proposed mitigation and monitoring.

SEC. 402 APPLICANT EXPERTISE

The Applicant has the necessary expertise to develop and operate the Project consistent with all requirements and conditions.

SEC. 403 TECHNICAL AND FINANCIAL FEASIBILITY

The Project is technically and financially feasible. The following criteria shall be applied to determine whether this standard is satisfied:

A. Amount of debt associated with the Project.

B. Debt retirement schedule and sources of funding to retire the debt.

C. Estimated construction costs and construction schedule.

D. Estimated annual operation, maintenance, mitigation, and monitoring costs.

SEC. 404 NECESSARY PROPERTY RIGHTS, PERMITS, AND APPROVALS

The Applicant will obtain all necessary property rights, permits, and approvals for the Project prior to any site disturbance. The Board may, at its discretion, defer making a final decision on the Application until outstanding property rights, permits, and approvals are obtained.

SEC. 405 IMPAIRMENT OF PROPERTY RIGHTS

The Project will not have a significant adverse impact on private property rights in the County.

SEC. 406 WATERSHED HEALTH

A. The Project will comply with all of the plans in Section 307 of these Regulations.

B. The Applicant shall provide documentation of consultation with CPW.

C. The Project will not significantly degrade the health of the watershed(s) affected by the Project. The following criteria shall be applied to determine whether this standard is

satisfied:

1. **Flows, Hydrology, and Surface Water Quality.** The Project shall not significantly degrade flows, hydrology, and surface water quality, including by ensuring that:

    a. Affected streams will maintain stream flows and water quality necessary to support current agricultural, ecological, municipal, domestic, industrial, and recreational uses at satisfactory levels, including those levels identified in watershed and stream management plans.

    b. Concentrations of pollutants will not increase over baseline conditions.

    c. Changes in total suspended solid concentrations will not cause adverse impacts to aquatic life or water clarity.

    d. Banks will not be eroded from changes in flows.

    e. Changes to channelization will be minimized, unless implemented to improve aquatic habitat and water quality conditions.

    f. Flows in affected streams will mimic the natural hydrograph to the extent possible in average, dry, and wet years.

2. **Groundwater Quality.** The Project shall not significantly degrade groundwater quality within the Impact Area, including aquifer recharge rates, groundwater levels, and aquifer capacity, and the Project will not reduce the capacity, function, and quality of wells within the Impact Area.

3. **Floodplains, Wetlands, and Riparian Areas.** The Project will not significantly deteriorate floodplains, wetlands, or riparian areas in the Impact Area, including:

    a. Structure and function of wetlands and unique, rare, delicate, or irreplaceable riparian areas, vegetation, forests, or woodlands.

    b. Filtering and nutrient uptake capacities of wetlands and riparian areas.

    c. Aerial extent of wetlands and evolution of wetland species to upland species.

4. **Aquatic Life and Aquatic Habitat.** The Project shall not significantly deteriorate aquatic life and aquatic habitat, including by:

    a. Preventing loss or isolation of off-channel habitat.

b. Preventing reductions in dissolved oxygen levels and flushing flows.

c. Preventing impairment of spawning and egg-to-fry survival due to changes in water temperature, water levels, velocity, or associated effects (e.g. sedimentation).

SEC. 407 POLLUTION OF AQUIFER RECHARGE AREAS

Urban development and increases in population densities associated with the Project will not contribute to pollution of the aquifer recharge areas.

SEC. 408 CONSISTENCY WITH WATER QUALITY PLANS AND POLICIES

The Project will be consistent with stream management and water quality plans and policies, including any watershed management plans adopted by the Board and the NWCCOG Regional Water Quality Plan (208 Plan).

SEC. 409 ADEQUATE WATER SUPPLIES

Water supplies are adequate for the current and future operational needs of the Project in terms of quantity, quality, and dependability.

SEC. 410 AIR QUALITY

The Project will not significantly degrade air quality in the Impact Area including along haul routes.

SEC. 411 WILDLIFE AND WILDLIFE HABITAT

A. The Project will not significantly deteriorate wildlife or wildlife habitat in the Impact Area.

B. The Applicant shall provide documentation of consultation with CPW.

SEC. 412 PLANT LIFE (TERRESTRIAL)

The Project will not significantly deteriorate terrestrial plant communities in the Impact Area.

SEC. 413 SOIL AND GEOLOGIC CONDITIONS

The Project will not significantly degrade soil and geologic conditions within the Impact Area, including significant deterioration to natural drainages, soil morphology and productivity, potential for soil erosion, stream sedimentation, lake and reservoir bank stability and sedimentation, and safety of existing reservoirs.

SEC. 414 RISK FROM NATURAL HAZARDS

A. The Project is not subject to significant risk from natural hazards such as earthquakes, floods, wildfires, subsidence, expansive soils, avalanches, landslides, and other natural hazards.

B. The Project will not exacerbate risks of natural hazard occurrences.

SEC. 415 GRADING, EROSION, AND SEDIMENT CONTROL

Erosion and sedimentation control measures will be implemented in conformance with the *Grading, Erosion, and Sediment Control Plan* to prevent erosion and sediment runoff and ensure that disturbed areas and soil stockpiles are stabilized within the Impact Area.

SEC. 416 STORMWATER MANAGEMENT

Run-off shall be managed in accordance with the *Stormwater Management Plan* in order to minimize adverse impacts to water quality in the Impact Area. If applicable, the Applicant shall obtain a Stormwater Discharge Permit from the Colorado Department of Public Health and Environment, Water Quality Control Division.

SEC. 417 RELEASE OF HAZARDOUS MATERIALS

A. Hazardous materials will be managed in accordance with the *Hazardous Materials Management Plan* so that the Project will not result in an unreasonable risk of releases of hazardous materials.

B. The above-ground or underground storage of hazardous materials is prohibited within any County-designated Fluvial Hazard Zone, active stream corridor, or 100-year floodplain.

C. Impacts resulting from spills and releases shall be investigated and cleaned up as soon as practicable.

1. Board, or its designee, may undertake prevention, control, countermeasure, containment, and clean-up measures if the Applicant fails to comply with its obligations under the *Hazardous Materials Management Plan*.

2. Applicant shall pay all costs incurred by the Eagle County Government for any such measures.

SEC. 418 EMERGENCY PREPAREDNESS AND RESPONSE

The Project shall be constructed and operated in conformance with *the Emergency Preparedness and Response Plan* to ensure that, in the event of an emergency, adequate practices, procedures, and infrastructure are in place to protect public health and safety and repair damage caused by emergencies.

SEC. 419 EFFECT ON LOCAL GOVERNMENT SERVICES

The Project will not have a significant adverse impact on the current or future capability of local government(s) to provide services or on the capacity of service delivery systems.

SEC. 420 TAX BURDEN

The Project will not create an undue tax burden on existing or future Eagle County residents.

SEC. 421 HOUSING

The Project will not significantly deteriorate housing availability, location, condition, or cost in the Impact Area.

SEC. 422 LOCAL ECONOMY

The Project will not significantly degrade any segment of the County economy.

SEC. 423 RECREATIONAL OPPORTUNITIES AND EXPERIENCE

The Project will not significantly degrade the quality or quantity of recreational opportunities and experience in the Impact Area.

SEC. 424 AREAS OF PALEONTOLOGICAL, HISTORIC, OR ARCHAEOLOGICAL IMPORTANCE

The Project will not significantly deteriorate areas of paleontological, historic, or archaeological importance in the Impact Area.

SEC. 425 TRAFFIC

A. Construction traffic within the Impact Area will not significantly degrade local traffic conditions.

B. All construction routes and permanent access routes within the Impact Area are designed to:

1. Minimize impacts to the public and ensure the safety and quality of life of other users of the County transportation system and affected adjacent residents.

2. Avoid, to the degree practicable, or minimize and mitigate impacts to residential

areas, commercial areas, environmentally- and visually- sensitive areas, critical wildlife habitat, schools and other civic buildings, and already-congested locations.

3. Accommodate truck and heavy equipment traffic, as applicable, and emergency and fire response.

SEC. 426 ROAD IMPROVEMENTS AND MAINTENANCE

The owner will bear the cost of all road upgrades, repairs, and maintenance necessitated by Project construction.

A. If the projected use of public roads by construction traffic will result in a need for increased roadway maintenance, the owner will enter into an agreement with the Board whereby the owner assumes responsibility for the repairs and additional road and bridge maintenance or reimburses the County for repairs and maintenance.

B. The owner will maintain financial assurance to secure the maintenance and repair obligations. The amount of such financial assurance will be determined by the Board in a form approved by the County Attorney.

SEC. 427 AGRICULTURAL RESOURCES

The Project will not significantly degrade the quality or value of agricultural lands or operations in the Impact Area.

SEC. 428 LAND USE PATTERNS

A. The Project will not have a significant adverse effect on land use patterns in the Impact Area.

B. The Project institutes appropriate setbacks to preserve land use patterns, avoid causing nuisances to existing property owners in the Impact Area, and to protect County public health, safety, welfare, and the environment.

SEC. 429 NUISANCE

The Project will not interfere with the use and enjoyment of property in the Impact Area nor cause a nuisance to existing property owners in the Impact Area.

SEC. 430 DUST SUPPRESSION

A. The *Dust Suppression Plan* and, if applicable, a permit from the Colorado Air Quality Control Division, will be implemented in a manner that protects public health, safety, welfare, and the environment.

B. The *Dust Suppression Plan* includes best practices for suppressing dust that include at minimum the following or alternative practices that achieve the same or greater protections:

1. Minimize surface disturbance to the extent practicable and promptly revegetate disturbed areas consistent with the *Revegetation and Weed Management Plan*.

2. Water or treat unpaved roads with chemical stabilizers to maintain a dust opacity of less than 20%, and monitor to ensure opacity is achieved.

3. Utilize watering or chemical stabilization of unpaved roads as often as necessary to minimize re-entrainment of particulate matter from the road surface or paving of roads.

4. Haul vehicles shall maintain a minimum of three inches of freeboard or be fully covered before entering public rights-of-way.

5. Suspend active earthmoving or bulk material transfer during high wind events exceeding 30 miles per hour.

6. Restrict the speeds of all vehicles associated with the Project.

SEC. 431 VISUAL QUALITY

The Project will not significantly deteriorate visual quality in the Impact Area.

SEC. 432 REVEGETATION AND WEED MANAGEMENT

Areas disturbed by Project construction activities will be revegetated and maintained in conformance with the approved *Revegetation and Weed Management Plan* and will not result in intrusion of noxious weeds or other invasive species.

SEC. 433 COMPLIANCE WITH REQUIRED PLANS/STUDIES/REPORTS

The Project will comply with all plans and reports required under Article 3 of these Regulations.

SEC. 434 ADDITIONAL STANDARDS FOR DOMESTIC WATER AND SEWAGE TREATMENT SYSTEMS AND MUNICIPAL AND INDUSTRIAL WATER PROJECTS.

In addition to the standards in Sections 401-433 of these Regulations, an applicant for domestic water and sewage treatment systems and municipal and industrial water projects shall demonstrate that the Project complies with the following standards.

A. Capacity of the Area to Sustain Development Associated with the Project. For Projects that will serve the County, the growth and development anticipated as a result of

the Project can be accommodated within the financial and environmental capacity of the area to sustain such growth and development.

B. **Proper Utilization of Facilities and Orderly Development in the County**. For Projects that will serve the County, the Project will be constructed in areas which will result in the proper utilization of existing treatment facilities and the orderly development of domestic water and sewage treatment systems of adjacent communities.

C. **Duplicate Services or Facilities**. Where the Project is a wholly new service or facility in the County, the Project will not duplicate existing services and facilities if such existing facilities or services have the legal and physical capacity or can be expanded or consolidated to provide additional services or facilities. The following criteria shall be applied to determine whether this standard is satisfied:

1. No existing water or sewage treatment system has the legal ability and capacity to serve the area to be served by the Project.

2. Age of existing water systems, operational efficiency, state of repair, or level of treatment is such that replacement is warranted.

3. Existing facilities cannot be upgraded or expanded to meet the requirements of the Colorado Department of Public Health and the Environment.

D. **Efficient Use of Water**. The Project will be planned, designed, and operated in a manner that emphasizes the most efficient use of water, including recycling and reuse.

E. **Ability to Accept FOGS and Septage**. For new wastewater systems or major extensions of wastewater systems that will serve the County, the Project shall include facilities equipped to accept, neutralize, and process high-strength organic wastes such as FOGS and septage unless the Applicant demonstrates that County facilities have adequate permitted capacity to receive high-strength organic wastes attributable to growth generated by the Project.

SEC. 435 ADDITIONAL STANDARDS FOR COMMERCIAL GEOTHERMAL RESOURCES

In addition to the standards in Sections 401-433 of these Regulations, an applicant to develop Commercial Geothermal Resources shall demonstrate that the Project complies with the following standards.

A. **Setbacks**.

1. All flowlines and fresh, produced, or wastewater pipelines will be routed and constructed in a manner that minimizes impacts to infrastructure and natural resources and to public health, safety, welfare, environment, and wildlife without compromising pipeline integrity and safety.

Condition:

1. The Eagle County Guidelines and Regulations for Matters of State Interest shall become effective simultaneously with the effective date of the re-adopted Eagle County Land Use Code; the current version of the Eagle County Guidelines and Regulations for Matters of State Interest shall remain in full force and effect until that time, with no lapse in applicability.

ALTERNATIVE MOTIONS

To recommend denal of the Application for an Amendment to the Text of the Land Use Regulations:
I move to recommend **denial of** File number LUR-009633-2026, 1041 LUR Amendment, because [insert reasons here].

To table/continue the Application for an Amendment to the Text of the Land Use Regulations:
I move to **continue** File number LUR-009633-2026, 1041 LUR Amendment, to [enter date here], to gather additional information necessary for a determination.

VII. ATTACHMENTS

Attachment 1: EAGLE COUNTY GUIDELINES AND REGULATIONS FOR MATTERS OF STATE INTEREST
Attachment 2: Public Comment

Wholesale changes brought on by beavers in Idaho peatlands were illustrated by Rabe and Savage (1977) at Bottle Lake Research Natural Area. Aerial photographs of Bottle Lake from 1932 and 1956 bear little resemblance to each other. Apparently 1932 was near the end of a long period without beavers at Bottle Lake. In 1932, the central doughnut-shaped, sphagnum-dominated mat was surrounded by a sedge-dominated fen with scattered trees. The mat rested on the basin bottom allowing the growth of *Thuja plicata, Tsuga heterophylla,* and other conifers. The lake within the mat supported emergent and submergent aquatic plants such as *Nuphar* spp. By 1956, beaver damming had flooded the sedge fen surrounding the floating mat, replacing it with aquatic plant communities and killing the scattered trees. The doughnut-shaped mat once again had become a buoyant island, conifers that had established during low water were dead, and the lake within the mat had become too deep to support species of *Nuphar,* conditions similar to those found at present.

Palsa

A ***palsa*** is a peat mound covering a permanently frozen (permafrost) core of peat and silt (Crum 1988). The overlying peat acts as an insulating blanket over the frozen core. Although common in the zone of discontinuous permafrost in the southern portion of the arctic tundra, in the contiguous United States the only documented occurrence is at a subalpine site (Sawtooth Peatbeds, Shoshone National Forest) in the Beartooth Mountains of northwestern Wyoming (Collins and others 1984). This occurrence is the southernmost palsa known in North America.

The palsa covers approximately 8 ha and is raised 1 to 2 m above the surrounding sedge-dominated fen. The surface of the palsa is practically devoid of vegetation apart from scattered clumps of *Deschampsia cespitosa* and plants of *Rumex paucifolius* (mountain sorrel). Permafrost is present 38 to 46 cm below the surface (Pierce 1961).

Peatland Vegetation And Flora

Vascular Flora

The vascular plant diversity associated with peatlands in the Northern Rocky Mountains is high, especially considering the small percentage of the regional landscape that is occupied by these habitats (color plates 13 through 25). The peatland vascular flora reported herein consists of 356 species, representing 164 genera and 62 families (appendix A). Six pteridophyte families (as represented by 11 genera and 20 species), two gymnosperm families (6 genera, 8 species), and 54 angiosperm families (148 genera, 328 species) were documented during the course of the peatland inventories in this region (Bursik 1990; Bursik and Henderson 1995; Chadde and Shelly 1995; Mantas 1993). Of note is the diversity of families and genera included in the regional peatland flora. Richness at these higher taxonomic levels further emphasizes the significance of these peatlands in contributing to the overall biological diversity in the Northern Rocky Mountains.

Idaho—Bursik (1990) distinguished two types of peatlands in Idaho, valley and subalpine peatlands. He found 327 vascular plant species occurring at both valley or subalpine sites, with 205 species occurring in the valley peatlands (see appendix A for a complete list of species). Subsequent study has revealed the presence of 291 vascular and 20 bryophyte species in the valley peatland flora of Idaho (Bursik and Henderson 1995).

Peatlands of the Sawtooth Valley are subalpine in elevation but intermediate in plant species composition. Boreal species found in the Sawtooth Valley peatlands include *Carex livida, C. buxbaumii, Eleocharis pauciflora, Drosera intermedia* (intermediate sundew), *Epilobium palustre* (swamp willow-herb), *Scirpus cespitosus* (tufted bulrush), *Carex aquatilis,* and *Swertia perennis*. Many of these are community dominants. Western cordilleran species include *Gentiana calycosa* (mountain bog gentian), *Carex cusickii* (cusick's sedge), *C. luzulina* (wood rush sedge), *Lonicera caerulea* (sweet-berry honeysuckle), *Senecio cymbalarioides* (few-leaved groundsel), and *Vaccinium occidentale* (western huckleberry).

Montana—The valley peatland vascular flora in Montana consists of 174 species, representing 105 genera in 44 families (Chadde and Shelly 1995; Mantas 1993). As such, approximately 37 percent of the 118 families and 16 percent of the 658 genera reported to occur in Montana (Dorn 1984) are associated with these habitats. In limestone areas of northwestern Montana (Kootenai and Flathead National Forests), rich fens are typical. Characteristic shrubs are *Betula glandulosa, Alnus incana* (mountain alder), *Potentilla fruticosa, Rhamnus alnifolia* (alder buckthorn), *Salix bebbiana, S. candida,* and *S. drummondiana* (drummond willow). Important sedges include: *Carex lasiocarpa, C. limosa, C. interior, C. livida, C. utriculata, C. flava,* and *C. buxbaumii.* Other common grass and grasslike species include: *Eleocharis rostellata* (in extremely rich fens), *E. tenuis, Eriophorum viridicarinatum, E. chamissonis, Dulichium arundinaceum, Calamagrostis canadensis,* and *Scirpus acutus. Picea engelmannii* is common on the outer margins of many peatlands as well as on drier hummock tops.

to maintaining peatland integrity, current management guidelines, protection through special designations, monitoring, and research needs and public education.

Threats

The two most critical factors affecting the abundance and distribution of peatland species in the Northern Rocky Mountains appear to be water levels and the nutrient concentration of incoming water. Natural factors such as wildfire, drought, and beaver activity bring periodic changes in these two factors and consequent shifts in location and abundance of peatland species. The abrupt, large-scale, and often irreversible nature of changes in hydrology and nutrient concentrations that result directly or indirectly from human activities, however, may be beyond the tolerance level of resident populations.

Direct impacts that may threaten the integrity of peatland ecosystems and associated plant and animal populations include ditching and drainage, peat mining, livestock grazing, water flow regulation, and invasion by exotic plant species. Several peatlands in Idaho and Montana have been significantly altered by major ditching, filling, and development. Although National Forest peatlands are not subject to development, some of these sites have been altered by ditching and drainage. Studies of Hager Lake Fen in Idaho have documented significant vegetation changes and loss of species diversity over a 40 year period, attributed in part to hydrologic changes resulting from ditching (Bursik and Moseley 1992a). During this 40 year period, 14 plant species disappeared from the site, including four rare species.

Little peat mining has taken place in the Northern Rocky Mountains, although limited local peat operations are known to occur in Idaho and Montana. This type of habitat destruction may be increasing, however, as private landowners and mining companies become increasingly interested in exploiting peat.

Although not a significant threat to most peatlands, livestock grazing takes place within and around some of the peatlands on National Forests in Idaho and Montana. Livestock grazing directly impacts vegetation through removal and trampling, and may result in soil compaction, and altered local hydrologic conditions. Indirect impacts associated with grazing may include altered water chemistry.

Artificial regulation of water levels around lakes and water flows associated with streams is another potential threat. Peatlands around lakes with regulated water levels could be threatened with a loss of species dependent on naturally fluctuating water regimes. Naturally occurring water regulators in peatland systems include beaver. The erratic dam building and flooding activities associated with beaver is critical to the maintenance of habitat diversity, which allows numerous species adapted to various seral stages to survive. Removing beaver from peatlands may have negative impacts on the overall functioning of the ecosystem. Long-term static water levels can lead to the gradual depauperization of the flora in peatlands (Crum 1988).

Management activities on landscapes that have peatlands imbedded within them can potentially threaten system integrity, if they adversely alter hydrologic regimes and nutrient regimes. Hydrologic conditions of individual peatlands result from their placement within an overall drainage system. Since most peatlands in Idaho and Montana are flow-through systems, water is obtained from the lands higher up in the drainage. Certain off-site management activities, such as timber harvest, road building, and livestock grazing that alter hydrologic and nutrient regimes may adversely impact peatlands. The degree of impact of these activities on peatlands is the result of many factors including the extent and intensity of land management activity or disturbance, and the particular physiographic features of the drainage. Off-site management activities need to be planned so that hydrologic and nutrient conditions remain within the range of natural variability. Additional threats to peatlands may arise from point source water pollution.

Invasion by exotic plant species is apparent in some peatlands. Reed canary grass (*Phalaris arundinacea*) is a commonly observed exotic species in peatlands, and is able to aggressively spread by rhizomes. Canada thistle (*Cirsium arvense*) may also invade peatlands following disturbances such as wheel ruts or fire.

Management of Peatlands on National Forests

Conservation of peatland habitats on National Forests is accomplished in several ways. A combination of State and Federal laws, agency policy, and management standards and guidelines set forth in forest plans collectively provide conservation mechanisms for many peatlands. Additional protection mechanisms include application of special designations to the most significant sites (discussed in the next section).

The presence of sensitive plant and animal species in peatlands affords protection through policy and guidelines aimed at maintaining viable populations of these species. The Clean Water Act and State water quality standards help prevent the occurrence of activities or pollution that could result in altered water chemistry and nutrient regimes in peatlands.

Peatlands fall under various categories of management direction in forest plans within Montana and Idaho. Generally, peatlands meet the criteria of jurisdictional wetlands that often fall within a riparian management area in the forest plans. Management